1991 CROP

DURUM WHEAT QUALITY REPORT

Physical, Chemical, Milling, and Spaghetti Characteristics

United States Department of Agriculture
Agricultural Research Service
North Central Region

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE
in cooperation with
STATE AGRICULTURAL EXPERIMENT STATION

QUALITY EVALUATION OF DURUM WHEAT CULTIVARS

1991 CROP[1/]

by

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1/ This report represents cooperative investigations on the quality of Durum wheat cultivars from the 1991 crop. Some of the results presented have not been sufficiently confirmed to justify varietal release. Confirmed results will be published through established channels. Cooperators submitting samples for analysis have been given analytical data on their samples prior to release of this report. The report is primarily a tool for use by cooperators and their official staff and by those individuals having direct and special interest in the development of agricultural research programs.

This report was compiled by the Agricultural Research Service, U. S. Department of Agriculture. Special acknowledgment is made to the North Dakota State University for use of their facilities and the services provided in support of these studies. The report is not intended for publication and should not be referenced in either literature citations or quoted in publicity and advertising. Use of the data may be granted for certain purposes upon written request to the agency or agencies involved.

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INTRODUCTION

The twenty-eighth Durum Wheat Quality Report contains data for the 1991 crop. Samples of standard cultivars and new selections of durum wheat grown in cooperative experiments in the durum wheat regions of the United States were milled and evaluated by the Hard Red Spring and Durum Wheat Quality Laboratory in cooperation with the Department of Cereal Science and Food Technology on the campus of North Dakota State University, Fargo, ND. Methods and techniques are described in detail in the text of the report.

Durum wheat samples of at least 2 kg were milled in a Buhler experimental mill, or macro procedure, and further processed into spaghetti. Smaller wheat samples were milled using the micro procedure and were not processed into spaghetti. Although, small samples having acceptable kernel characteristics and dust color scores, if possible, should be included in the macro procedure the following year.

The purpose of this report is to make available to cooperators the quality data on standard cultivars and new selections of durum wheat from the 1991 crop.

SOURCE OF THE 1991 CROP SAMPLES

Tests were performed on 646 samples from 18 stations in seven states (California, Oregon, Arizona, North Dakota, Montana, Minnesota, and South Dakota). Data presented in this report are from the Field Plot Nursery, Uniform Regional Nursery, Advanced Nursery, Preliminary samples, Special Nursery, and Elite Nursery. Only twenty of the 45 samples received from the Special Nursery are reported since the remaining samples were of special interest only to the breeders.

FIELD PLOTS - 17

Minot, Langdon and Fargo, North Dakota

UNIFORM REGIONAL NURSERY - 342

Day County and Selby - South Dakota
Crookston - Minnesota
Bozeman and Sidney - Montana
Dickinson, Carrington, Williston, Minot, Langdon, and Prosper - North Dakota

ADVANCED NURSERY - 143

Imperial Valley, Kings Co., and Davis - California
Pendleton - Oregon

PRELIMINARY - 79

Pendleton - Oregon

SPECIAL NURSERY - 45

Tucson - Arizona
Davis - California

ELITE NURSERY - 20

Pendleton - Oregon

1991 UNIFORM REGIONAL DURUM NURSERY

LIST OF ENTRIES

Entry No.	Entry	Pedigree	P.I. No.	Entered	Origin
1	MINDUM		5296	1929	MN
2	STOA			1988	ND-USDA
3	WARD		15892	1969	ND-USDA
4	RUGBY		17284	1970	ND-USDA
5	VIC		17789	1976	ND-USDA
6	LLOYD*		476211	1978	ND-USDA
7	MONROE		478289	1981	ND-USDA
8	RENVILLE		510696	1985	ND-USDA
9	MEDORA			1980	U.SASK.
10	SCEPTRE			1985	U.SASK.
11	D8460	D8030/D8016		1988	ND-USDA
12	D8475	D79122/D797		1988	ND-USDA
13	D86117	MONROE/D79209		1989	ND-USDA
14	D86398	MONROE/D8019		1989	ND-USDA
15	D86741*	RSPC1S2-227/D8292		1990	ND-USDA
16	D86747*	RSPC1S2-227/D8292		1990	ND-USDA
17	D87038	T.TURG.//D.46/BD1584W2/3/D80224		1991	ND-USDA
18	D87373*	CIT 71/MEX'S'//S*5.0179/DURUM6/3/D82113		1991	ND-USDA
19	D87436*	W85 GH-227/D804		1991	ND-USDA
20	D87443	W85 GH-227/D804		1991	ND-USDA
21	D87450*	D82104/AUST#820198//D82108		1991	ND-USDA
22	D87105	D8024/D8164		1991	ND-USDA
23	D87121	D8024/MONROE		1991	ND-USDA
24	D87122	D8024/MONROE		1991	ND-USDA
25	D87130	D8024/MONROE		1991	ND-USDA
26	D87141	D8019/D7958		1991	ND-USDA
27	D87240	D7798/DT367		1991	ND-USDA
28	D87245	D7798/DT367		1991	ND-USDA
29	NPB86-435	NOT AVAILABLE		1991	AGRIPRO
30	D86-1523*	NOT AVAILABLE		1991	AGRIPRO
31	D87-1531*	NOT AVAILABLE		1991	AGRIPRO

* Denotes semidwarf entries.

METHODS

Methods used in testing samples were essentially the same as provided in the previous report.

Briefly, the following methods and terminologies were applied:

Test Weight Per Bushel - The weight per Winchester bushel of dockage-free wheat subsequent to passing the sample through a Carter-Day dockage tester[4/].

Thousand Kernel Weight - The 1000 kernel weight was determined from a 10 gm sample of cleaned, hand-picked wheat using a Seedburo Seed Counter[4/].

Kernel Size - The percentage of the size of the kernels [large, medium, and small] was determined on a wheat sizer as described by Shuey[5/].

The sieves of the sizer were clothed as follows:

Top Sieve - Tyler # 7 with 2.92 mm opening
Middle Sieve - Tyler # 9 with 2.24 mm opening
Bottom Sieve - Tyler #12 with 1.65 mm opening

Protein Content - Both the Kjeldahl procedure and the near infrared technique were used to determine protein content. Nitrogen values, as determined by the Kjeldahl procedure, were multiplied by 5.7 to calculate protein values.

Hardness Test - The procedure (AACC Method 39-70A) requires grinding durum wheat samples with a UDY grinder, and obtaining data from a Technicon 400 near infrared analyzer. Wavelengths used were 1680 nm and 2230 nm. This procedure was developed by Mr. Karl Norris, USDA, Beltsville through a collaborative research project in which this Laboratory also participated. Durum wheat hardness scores for the

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4/ Mention of a trademark name or proprietary product does not constitute a guarantee or warranty of the product by the U. S. Department of Agriculture, and does not imply its approval to the exclusion of other products that may also be suitable.

5/ Shuey, William C. A wheat sizing technique for predicting flour milling yield. Cereal Sci. Today 5:71 (1960).

1991 crop ranged from a low of 58 to a high of 137 with an average of 101.

Milling - All samples were cleaned by passing the wheat through a Carter-Day dockage tester and through a modified Forster scourer Model 6. The clean, dry wheat from the larger 2 kg samples was tempered in three stages: first to 12.5% moisture at least 72 hours prior to the second stage; second, an increase of 2.0% moisture to a cumulative moisture of 14.5% for 18 hours; and third, an increase of 3.0% moisture to a cumulative moisture content of 17.5%, 45 minutes prior to milling. The smaller 200 gram samples were pretempered to 12.5% moisture for at least 72 hours. Following, they were tempered to 16.5% moisture and allowed to stand overnight prior to milling.

Samples from the Field Plot, Preliminary, Special, and Advanced Nurseries were milled in a Buhler experimental mill specially designed for milling durum wheat. The mill is equipped with corrugated rolls throughout, and the semolina is purified on a Miag laboratory purifier. All stock is handled pneumatically. The mill flow is shown on page 9. Prior to milling, the Buhler mill and purifiers were adjusted to maximize semolina yield, yet keep the speck count to an acceptable level.

Samples from the Uniform, Special, and Elite Nurseries were milled in a Brabender Quadrumat Junior mill equipped with #24GG on the drum sieve. The flow diagram of this system is shown on page 10. The unpurified semolina was rebolted for 30 sec on a strand sifter equipped with a U.S. #35 Tyler sieve. The throughs of the #35 Tyler sieve were classified as rebolted semolina. The overs of the #35 Tyler sieve were reground and sieved again for 30 seconds. The throughs were combined with the first sieving, and the combined semolina represented the material tested. The overs of the #35 Tyler sieve were classified as crude shorts, and overs of the rotating #24GG sieve were classified as bran.

Semolina Extraction - For both the macro and micro method of milling, the percent semolina extraction was calculated on a total product basis.

Speck Count - The number of specks was determined from three separate one-inch square areas of semolina enclosed by a special glass and frame. Any materials other than pure endosperm chunks, such as bran particles, were considered specks. The average of three readings was converted to the number of specks per 10 sq in (speck count). Speck count is determined only on the macro milled samples.

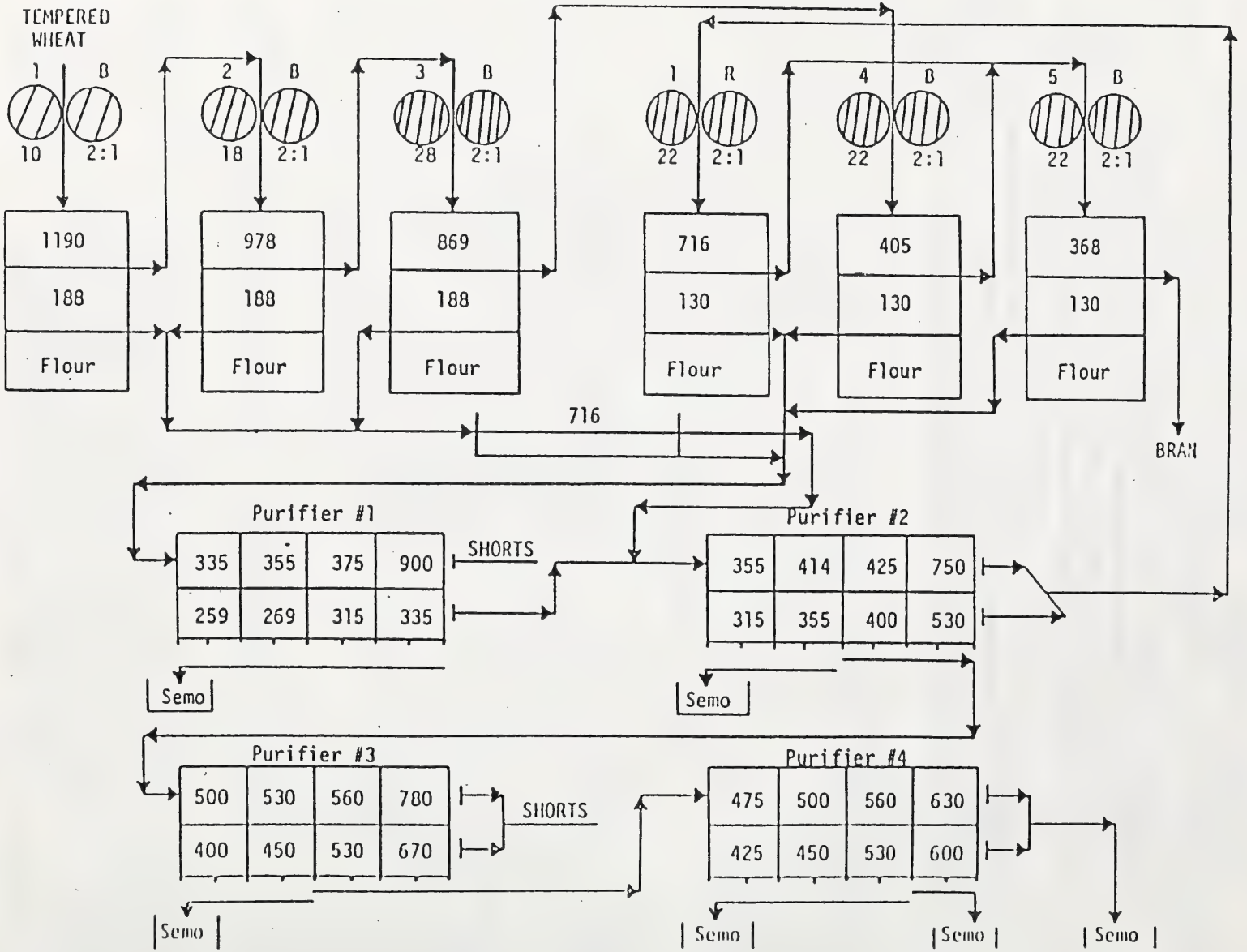
Mixograph Analysis - Mixing properties were determined from a constant weight of semolina (10 g, mb) and water absorption (5.7 ml water).

Mixogram Pattern - The reference mixograms shown on page 24 illustrate different types of mixogram patterns. A single number is assigned each pattern to classify the curves. Larger numbers indicate stronger mixing characteristics.

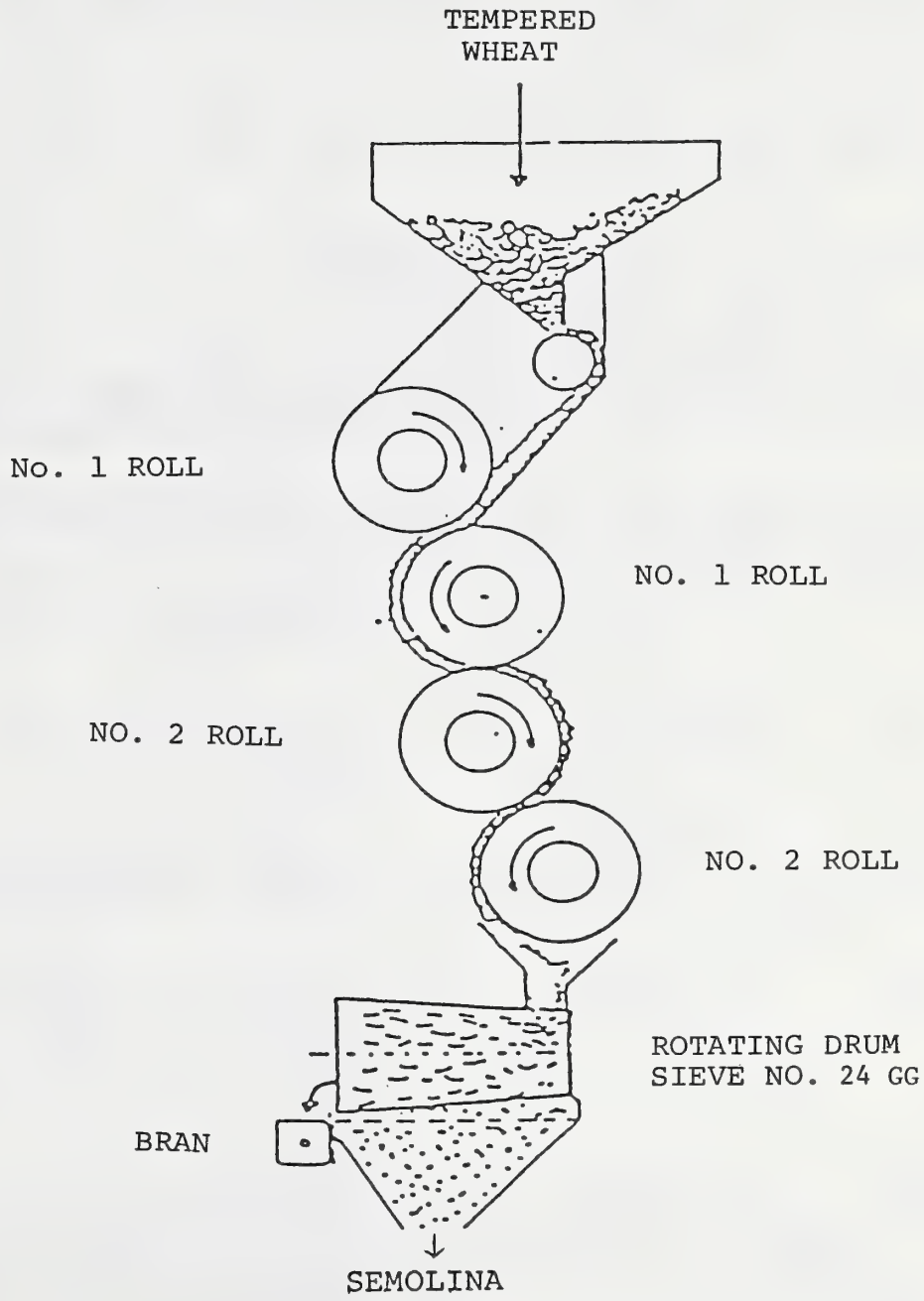
Color Score - The color of the spaghetti or semolina has generally been accepted as the most important single grading factor. A deep amber or golden color is most preferable. The amount of yellow pigmentation determines the color.

Cooked Weight - Weight of cooked spaghetti determined after cooking, rinsing, and draining.

FLOW DIAGRAM FOR LARGE DURUM WHEAT SAMPLES
MACRO PROCEDURE



FLOW DIAGRAM FOR SMALL DURUM WHEAT SAMPLES
MICRO PROCEDURE



REBOLTED ON A STRAND SIFTER
EQUIPPED WITH A #35 TYLER SIEVE

Semolina and Spaghetti Color

Samples which have a color rating of 1.5 points below the standard spaghetti score or 15 points below the standard semolina color score are unsatisfactory. The possibility exists that the average color score for a specific crop year may be higher or lower than the average score over a number of crop years. Therefore, this factor is considered in the final rating of a variety over a number of years.

The grading system shown below has been adopted for scoring the semolina and spaghetti color relative to the standard color score.

COLOR SCORE

Semolina	Spaghetti	Description
15 above	1.5 above	Much deeper and intense yellow pigmentation than standard
10 above	1.0 above	Deeper and more intense yellow pigmentation than standard
5 above	0.5 above	Slightly deeper and more intense yellow pigmentation than standard
Equal to Standard	Equal to Standard	Standard quality, depth and intensity of yellow pigmentation
5 below	0.5 below	Slightly less depth and intensity, but sufficient quantity of pigmentation
10 below	1.0 below	Slightly less quantity as well as depth and intensity of pigmentation than the standard, but still sufficient to be rated satisfactory on the basis of color
15 below	1.5 below	Sufficiently less quantity of yellow pigmentation than the standard to give a pale yellow color and graded unsatisfactory for color score

Semolina Color Score - The semolina color score was determined from light reflectance values measured by the Model D25M-9 Hunterlab tristimulus colorimeter equipped with an optical sensor and a signal processor. The instrument was calibrated using a yellow standard tile with Hunter L, a, b values of L = 77.33, a = -1.91, b = 20.94. A sample of semolina was placed in a cell normally used for near infrared analysis of flour in a Technicon 400 Infra Analyzer. This cell fits in the opening of the optical sensor. The b value was converted to a yellow color score ranging from 1-14, with 14 being a deep yellow and the most desirable color. In this report, the semolina color score, reported as "Du" in the tables, is multiplied by a factor of 10.

Spaghetti Color - The spaghetti color scores were also determined by the Model D25M-9 colorimeter. The specimen area (2 inches in diameter) was covered with straight spaghetti strands and readings were taken against a black background with 0% reflectance. Color difference values (L%, a% and b%) were measured for all spaghetti samples by the method of Walsh, Gilles and Shuey[6/]. A uniform chromaticity chart was used for determining spaghetti color scores.

MACRO Spaghetti Processing - Spaghetti was processed on a semi-commercial scale pasta extruder (DEMACO). The controls and samples were processed under the following extruding conditions.

Temperature	49.5°C
Rate.	12 rpm
Absorption.	32.5%
Vacuum.	18 in Hg

These were the optimum conditions for processing spaghetti.

6/ Walsh, D. E., Gilles, K. A. and Shuey, W. C. Color determination of spaghetti by the tristimulus method. Cereal Chem. 46:7 (1969).

Processing spaghetti in the laboratory involved premixing 1000-g batches of semolina in a Hobart C-100-T mixer equipped with a pastry knife agitator. The contents were mixed at a slow speed for approximately 10 seconds while water was added to the semolina. Upon addition of all the water to obtain 32.5% absorption, the contents were blended at high speed for 30 seconds. The mixer was then stopped to scrape down the sides of the bowl, and blending continued for an additional 90 seconds to complete the premix stage. The premixed pasta was then transferred to the vacuum mixer of the press and extruded through an 84-strand 0.043 in. Teflon spaghetti die. A jacketed extension tube (9-1/4" long x 1-3/4" inside diameter) was attached to the semi-commercial pasta extruder to allow a longer time for hydration of the semolina and minimize the number of white specks (unhydrated semolina) in the spaghetti. Extrusion temperature was controlled by a circulating water bath.

Spaghetti Drying - Spaghetti was dried in an experimental pasta dryer for an 18 hour, computer controlled cycle. The drying cycle was a modification of that described by Gilles, Sibbitt and Shuey[7/]. During the drying period, the humidity of the dryer was decreased linearly from 95 to 50% R.H. The temperature was held at 40°C for the first 10 hour and was then decreased linearly from 40°C to 25°C during the last 8 hours of the cycle.

7/ Gilles, K. A., Sibbitt, L. D. and Shuey, W. C. Automatic laboratory dryer for macaroni products. Cereal Sci. Today 11:322 (1966).

Cooking Characteristics of Spaghetti

A. Cooking Procedure

Spaghetti (10 g) which had been broken into lengths of approximately 5 cm, was placed into 300 ml of boiling water in a 500 ml beaker. After 12 min. cooking, the samples were washed thoroughly with distilled water in a Buchner funnel, allowed to drain for 2 min., and then weighed to determine cooked weight.

B. Firmness Score

Two strands of cooked spaghetti were placed on a plexiglass plate and sheared at a 90° angle with a special plexiglass tooth. A continuous recording of distance versus force was made by an Instron instrument during the operation. An automatic integrator was used to calculate the area under the curve (g-cm) which was the amount of work required to shear the cooked spaghetti. To measure firmness, the average of three integrator scores was used, and the average work to shear represented a measure of spaghetti firmness.

Calculations were as follows:

$E = 0.0216 \times A$ (g-cm)

A = Average integrator reading

E = Area of curve expressed as g-cm (work)

The higher the value, the firmer the spaghetti. A value of approximately 7.00 appears to be preferred.

C. Residue

Weight of the solids remaining after the combined cooking and washing water was evaporated.

DISCUSSION

The following discussion relates the basic techniques and criteria used in the quality evaluation of durum wheat cultivars. Testing factors used to determine the quality characteristics and final evaluation of a particular sample include kernel characteristics, milling performance, and cooking properties.

Each evaluation factor can be important. A sample could be of sufficiently poor quality for a given factor to eliminate it from possible future testing. However, a sample submitted for the first time and found to show little promise should be tested again to confirm the first evaluation. A sample which is consistently rated as little promise or no promise should be discontinued.

Data presented in this report were processed by using the Statistical Analysis System (SAS Institute, Inc., SAS Circle, Box 8000, Cary, NC 27511). The program developed from this system allows flexibility within the quality grading factors. This should allow the evaluations to relate more directly to industry and consumer requirements.[8/]

The evaluation system consists of 11 dependent variables. These include test weight, 1000 kernel weight, percent small kernels, wheat protein, total extraction, semolina extraction, dust color, speck count, semolina protein, spaghetti visual color score, and spaghetti firmness score. Eight additional variables are measured and included in the tables for the reader's use and information but are not used in the computerized evaluation of the samples. These are percent large kernels, hardness, mixograph score, wheat ash, semolina ash, falling number, cooked weight, and cooking residue.

After computing an average of each of the 11 variables for the standards from a station or nursery, established values for individual samples are subtracted from each of the standard averages to determine major (MJ) and minor (MI) faulting limits. There are two exceptions where precise values have been assigned, which are independent of the station standards. The first exception is wheat protein, where percentages below 11.5% will be classified as MJ faults, and percentages between 11.5% - 12.5% will be MI faults (14% m.b.). The second exception is semolina protein, where percentages between 11.0% and 11.5% are classified as MI faults (14% m.b.). Hence, the wheat and semolina protein faulting values remain the same for all stations and nurseries.

8/ Nolte, L. L., Youngs, V. L., Crawford, R. D. and Kunerth, W. H. 1985. Computer program evaluation of hard red spring wheat. Cereal Foods World 30:227-229.

SELECTION OF STANDARDS

Whenever possible, the standards selected were commercial cultivars grown at each location or in each nursery. In the tables of data, the cultivars used as standards are identified by an "s" in the second column. At the bottom of each table are cited "average of standards". Quality deviation from these values determine the major and minor faults. In nurseries where breeders did not grow a cultivar for standard comparison with other selections, the North Dakota cultivar Vic was used as the standard. Vic, however, was not necessarily grown at the particular nursery. Other deviations are footnoted in the tables.

HOW SAMPLES ARE SCORED

Each sample is assigned an evaluation score of 4. Major and minor faults determined from the data entered into the computer will reduce this score, depending upon the quality factor being faulted. The effects of the different quality faults are shown in the following table:

DURUM PROGRAM FAULTING AND SCORING VALUES

Variable	Range[a/]		Effect on Evaluation Score[b/]	
	Minor fault	Major fault	Minor fault	Major fault
Test Wt. (lb/bu)	-2.2	-3.1	-	-1
1000 KWT (g)	-2.1	-5.1	-	-1
Small Kernels (%)	+5	+10	-	-1
Wheat Prot. (%)	12.5	11.5	-1	-2
Tot. Ext. (%)	-2.5	-3.5	-1	-2
Semo. Ext. (%)	-3.0	-4.0	-1	-2
Dust color	-10	-15	-2	-3
Specks/10 sq. in.	+10	+15	-	-1
Semo. Prot. (%)	11.5	11.0	-1	-2
Visual Spag. color	-1.0	-1.5	-2	-3
Firmness (g cm)	-1.5	-2.25	-1	-2

a/ Wheat and semolina protein percents are fixed lower limits for faults. All other values represent the deviation from the average of the standards required to warrant a minor or major fault.

b/ These values are subtracted from a beginning score of 4.

EXPERIMENTAL RESULTS - 1991 CROP

The results are tabulated and presented in the following order: Field Plot Nursery, Tables 1-3; Uniform Regional Nursery, Tables 4-22; Advanced Nursery, Tables 23-27; Preliminary, Table 28; Special Nursery, Tables 29-30; and Elite Nursery, Table 31.

FIELD PLOT NURSERY

Langdon, Fargo, and Minot, North Dakota - Tables 1-3

Seventeen samples were received from these three stations, all of which were commercial cultivars. All samples were milled, and the semolina was processed into spaghetti using the macro method. Vic was used as the standard for all locations.

UNIFORM REGIONAL NURSERY

Thirty-one cultivars and experimental lines were received from eleven stations in four states, or a total of three hundred forty-two samples were submitted for testing. Nine were commercial durum cultivars, one a commercial HRS wheat cultivar, and twenty-one experimental durum lines. Quality data on individual samples from each of the nine nurseries is shown in Tables 4-14. Following in Tables 15-22 is a statistical evaluation of each cultivar and experimental line showing the overall mean, SD, minimum and maximum values, variance, and CV for nine selected variables.

ADVANCED NURSERY

A total of 143 samples were received from four stations in two state. Samples received from California were Buhler milled, and the semolina was processed into spaghetti. Samples received from Pendleton, Oregon were milled in a Qualrumat Junior mill but not processed into spaghetti.

Imperial Valley, California - Table 23

Twenty-nine samples were received from this station. Mexicali 75 and Yavaros 79 were used as the standard.

Kings Co., California - Table 24

Twenty-nine samples were received from this station. Mexicali 75 and Yavaros 79 were used as the standard.

Davis, California - Table 25

Twenty-nine samples were received from this station. Mexicali 75 and Yavaros 79 were used as the standard.

Davis, California - Table 26

Thirty-four samples were received from this station. Mexicali 75 and Yavaros 79 were used as the standard.

Pendleton, Oregon - Table 27

Twenty-two samples were received from this station. Vic were used as the standard.

PRELIMINARY NURSERY

Pendleton, Oregon - Table 28

A total of 79 samples were received from Pendlton, Oregon. All samples were milled and processed by the macro method. Vic was used as the standard for this location.

SPECIAL NURSERY

Davis, California - Table 29

Fifteen samples were received from one station in one state. All samples were milled by the micro method. ND Vic was used as the standard for this location.

Tucson, Arizona - Table 30

Ten samples were received from one station in one state. All samples were milled by the macro method. ND Vic was used as the standard for this location.

ELITE NURSERY

Pendleton, Oregon - Table 31

Twenty samples were received from one station in one state. All samples were milled by the micro method. Vic was used as the standard for this location.

EXPLANATION OF ABBREVIATIONS LISTED UNDER THE HEADINGS AND UNDER MINOR AND MAJOR DEFICIENCIES IN TABLES

MINOR AND MAJOR DEFICIENCIES ON COMPUTER PRINTOUT

S or STD = Standard
TW = Test Weight

1000 KWT or KW = 1000 Kernel Weight
LG = % Large Kernels
SM = % Small Kernels

WHT ASH = Wheat Ash
WHT PRO or WP = Wheat Protein
HRD = Hardness
TOTL EXTR or TX = Total Extraction (Semolina Plus Flour)
SEMO EXTR or SX = Semolina Extraction
DU = Semolina Dust Color Score (High score is more desirable)

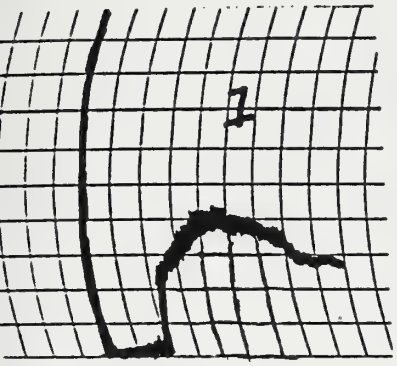
MX = Mixograph Score (The higher the number, the stronger the curve)
SPK or SK = Semolina Speck Count
SEMO ASH = Semolina Ash

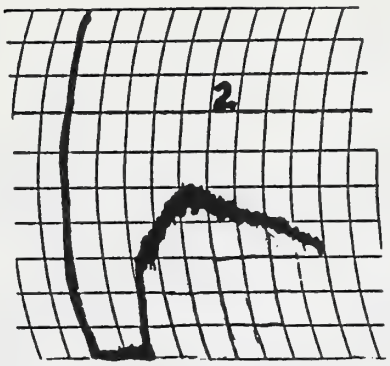
FALL NO = Semolina Falling Number Value (Values above 300 are desired)
SEMO PRO or SP = Semolina Protein

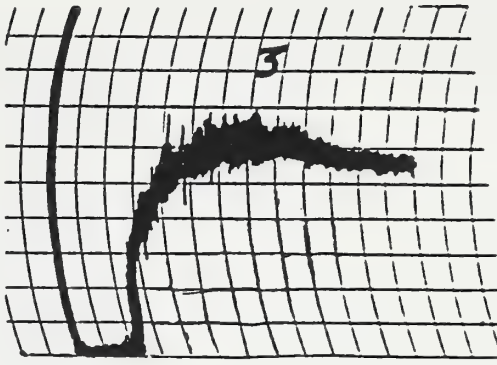
VI = Spaghetti Visual Color Score (The higher the score, the more desirable)
CWT = Cooked Weight
FIRM or FR = Cooked Spaghetti Firmness Score (Approx. 6.50 to 8.50 is the desirable range)

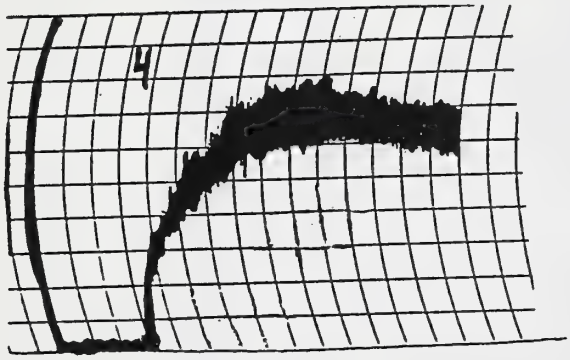
RES = Residue in Water of Cooked Spaghetti
SCORE = Sample Evaluation Number (Example 4 = Good Promise)

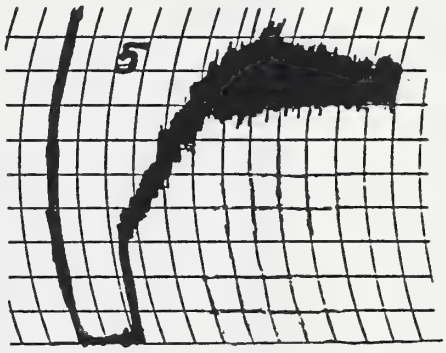
STANDARD MIXOGRAMS PATTERNS

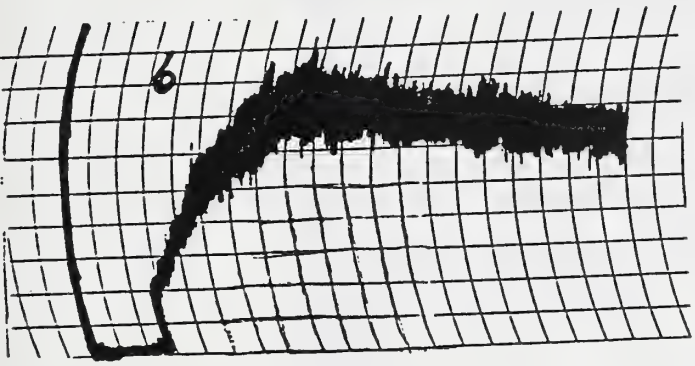


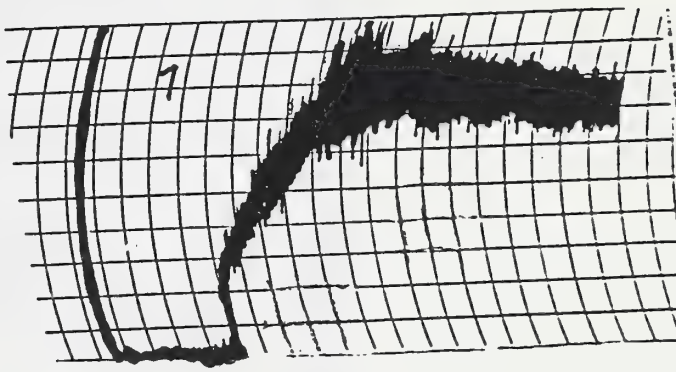


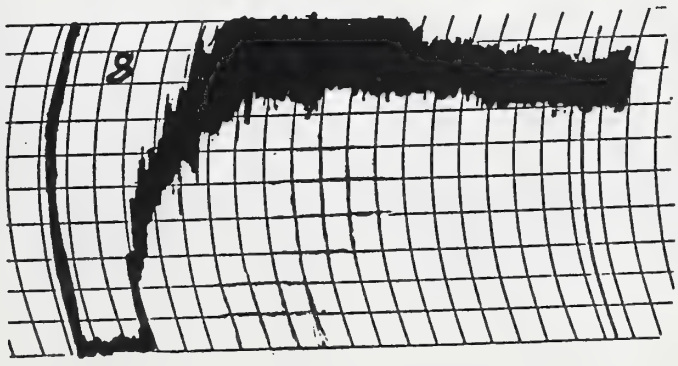












QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=LANGDON NURSERY=FIELD PLOT

TABLE 1

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
ND Std VIC	S	60.0	31.2	12	8	1.89	15.5	110	400	77.9	57.7	30	0.72	105	6
CANDO		60.1	30.4	15	8	1.91	12.1	101	400	79.1	60.5	50	0.80	110	1
LLOYD		57.7	33.0	28	2	1.97	12.4	105	400	78.7	60.7	93	0.82	110	3
VIC		61.6	39.4	56	0	1.77	13.6	111	400	76.8	60.4	53	0.72	105	3
WARD		61.8	38.3	50	1	1.82	14.3	116	400	77.1	58.8	90	0.75	100	8

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=LANGDON NURSERY=FIELD PLOT

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES %	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ND Std VIC	S	15.1	9.5	30.7	7.13	6.0	4											
CANDO		11.8	9.5	31.1	5.18	6.5	1				MI				MJ			MI
LLOYD		12.0	9.5	31.0	4.84	6.6	1		MI		MI				MJ			MJ
VIC		13.3	9.5	30.9	5.12	6.4	2								MJ			MI
WARD		13.9	9.5	31.4	5.12	6.4	2								MJ			MI

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	60.0	31.2	8	15.5	77.9	57.7	105	30	15.1	9.5	7.13
MINOR FAULTING VALUES	57.8	29.1	13	12.5	75.4	54.7	95	40	11.5	8.5	5.63
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	74.4	53.7	90	45	11.0	8.0	4.88

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 2

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=FARGO NURSERY=FIELD PLOT

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
ND Std VIC	S	60.0	31.2	12	8	1.89	15.5	110	400	77.9	57.7	30	0.72	105	6
WARD		60.1	41.7	61	0	1.77	13.6	.	346	78.1	60.4	70	0.71	100	1
RUGBY		60.5	40.5	65	0	1.76	13.7	.	370	78.1	60.2	57	0.72	100	1
VIC		60.2	42.9	68	0	1.76	14.1	.	364	77.1	59.5	63	0.66	105	3
LLOYD		54.5	35.1	39	2	2.08	14.3	.	319	77.7	59.6	53	0.83	105	3

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=FARGO NURSERY=FIELD PLOT

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES %	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ND Std VIC	S	15.1	9.5	30.7	7.13	6.0	4											
WARD		12.8	9.5	31.2	4.47	6.0	1								MJ		MJ	
RUGBY		12.7	9.0	32.5	5.31	6.1	2								MJ		MI	
VIC		13.4	9.5	32.7	5.01	5.9	2								MJ		MI	
LLOYD		13.4	9.5	31.1	5.12	6.2	1	MJ							MJ		MI	

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	60.0	31.2	8	15.5	77.9	57.7	105	30	15.1	9.5	7.13
MINOR FAULTING VALUES	57.8	29.1	13	12.5	75.4	54.7	95	40	11.5	8.5	5.63
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	74.4	53.7	90	45	11.0	8.0	4.88

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 3

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=MINOT NURSERY=FIELD PLOTS

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
CANDO		59.4	28.7	13	9	1.82	14.7	118	371	79.4	60.0	37	0.75	100	3
LLOYD		56.1	35.6	42	3	1.73	15.6	111	187	78.6	59.2	47	0.73	105	4
MEDORA		58.5	39.7	68	0	1.66	16.6	134	237	76.0	57.9	43	0.67	100	4
MONROE		57.7	39.2	56	0	1.73	15.7	125	371	78.3	60.2	37	0.69	105	6
RENVILLE		59.5	37.3	42	0	1.52	16.0	134	315	78.5	61.1	33	0.60	95	6
RUGBY		59.8	38.8	59	1	1.61	16.0	131	299	78.3	59.6	47	0.70	95	1
SCEPTRE		57.8	36.4	59	0	1.75	15.5	117	207	78.3	60.1	47	0.75	95	4
VIC		58.9	28.7	11	7	1.92	15.7	114	392	78.7	58.7	37	0.71	110	6
WARD		59.4	35.8	56	1	1.74	14.8	119	272	78.8	59.7	57	0.69	90	1
VIC 91 STD	S	60.0	31.2	12	8	1.89	15.5	110	400	77.9	57.7	30	0.72	105	6

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=MINOT NURSERY=FIELD PLOTS

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES %	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
CANDO		13.8	9.0	32.9	6.48	6.9	4		MI									
LLOYD		14.2	9.5	31.2	7.08	6.4	2	MJ							MJ			
MEDORA		15.4	9.5	32.2	7.04	6.4	4								MI			
MONROE		15.0	9.5	33.9	6.70	6.5	4	MI										
RENVILLE		15.1	9.0	30.6	7.43	5.6	2							MI				
RUGBY		15.3	9.0	33.2	6.39	6.2	1							MI	MJ			
SCEPTRE		14.8	9.0	32.0	7.37	6.8	1	MI						MI	MJ			
VIC		14.9	9.5	31.8	8.04	5.9	4		MI									
WARD		13.7	9.0	33.0	6.00	6.8	1							MJ	MJ			
VIC 91 STD	S	15.1	9.5	30.7	7.13	6.0	4											

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	60.0	31.2	8	15.5	77.9	57.7	105	30	15.1	9.5	7.13
MINOR FAULTING VALUES	57.8	29.1	13	12.5	75.4	54.7	95	40	11.5	8.5	5.63
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	74.4	53.7	90	45	11.0	8.0	4.88

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=SOUTH DAKOTA STATION=DAY CO. NURSERY=UNIFORM

TABLE 4

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		58.7	28.1	11	8	13.8	84	53.9	70	1	1						MJ
STOA		55.7	22.5	4	15	14.5	71	61.1	35	6	1		MJ	MI			MJ
WARD	S	58.0	30.7	17	6	13.5	95	58.4	105	1	4						
RUGBY		58.4	31.2	20	5	13.2	88	58.7	100	1	4						
VIC	S	57.8	32.5	20	6	14.2	92	56.9	105	3	4						
LLOYD	S	46.9	24.8	6	14	15.8	84	51.2	100	5	1	MJ	MI	MI		MJ	
MONORE		57.5	32.9	32	4	13.3	96	57.1	105	3	4						
RENVILLE		55.6	27.8	7	11	14.1	95	57.6	100	4	4						
MEDORA		56.7	30.2	18	4	14.3	98	53.2	105	3	4						
SCEPTRE		53.8	26.9	12	9	14.0	85	54.6	105	4	4		MI				
D 8460		56.2	27.9	10	8	13.9	92	56.4	110	3	4						
D 8475		57.7	29.9	7	8	13.7	91	54.8	105	3	4						
D 86117		53.4	26.1	5	12	14.3	89	55.3	110	4	4		MI				
D 86398		57.0	31.8	25	5	14.0	92	55.0	115	3	4						
D 86741		53.4	25.4	6	14	13.7	84	54.1	105	3	4		MI	MI			
D 86747		55.0	30.0	20	6	13.9	80	53.2	100	3	4						
D 87038		52.4	29.1	16	8	15.3	87	53.7	95	4	4						
D 87373		52.4	24.5	5	13	14.6	86	51.2	95	3	2		MI			MJ	
D 87436		53.1	25.0	8	11	14.4	93	51.6	100	3	3		MI			MI	
D 87443		54.8	27.7	15	9	14.3	89	53.5	100	4	4						
D 87450		53.0	27.8	12	10	13.2	88	55.5	100	3	4						
D 87105		56.7	25.6	5	13	14.5	100	52.5	100	5	4		MI				
D 87121		58.2	32.7	22	6	14.0	96	55.0	100	4	4						
D 87122		56.7	30.9	24	5	14.2	91	56.0	100	3	4						
D 87130		59.3	34.0	33	3	13.7	93	56.4	95	3	4						
D 87141		57.8	31.7	13	7	13.9	98	52.8	95	3	4						
D 87240		54.2	32.4	32	5	14.6	94	53.9	100	4	4						
D 87245		54.8	33.0	31	5	14.3	97	55.5	100	3	4						
N86-435		48.0	21.9	2	21	16.7	93	46.3	100	6	1	MJ	MJ	MJ		MJ	
D86-1523		50.6	23.0	4	21	16.1	84	47.7	100	5	1	MJ	MJ	MJ		MJ	
D87-1531		52.8	27.4	5	12	15.0	92	50.5	95	4	2					MJ	

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	54.2	29.3	9	14.5	55.5	103
MINOR FAULTING VALUES	52.0	27.2	14	12.5	52.5	93
MAJOR FAULTING VALUES	51.1	24.2	19	11.5	51.5	88

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 5

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=SOUTH DAKOTA STATION=SELBY NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		62.6	32.4	26	8	14.5	93	56.3	80	2	1		MI				MJ
STOA		60.8	26.5	14	6	14.2	65	64.0	40	6	1		MJ				MJ
WARD	S	61.4	35.5	37	5	14.8	107	58.5	100	2	4						
RUGBY		60.5	36.0	37	5	14.5	96	59.6	100	1	4						
VIC	S	61.5	37.9	43	3	14.9	101	60.2	95	3	4						
LLOYD	S	59.0	38.0	34	5	14.2	101	56.3	110	4	4						
MONROE		60.6	40.5	55	4	14.3	97	59.4	110	3	4						
RENVILLE		59.9	33.8	19	7	14.5	102	60.3	100	3	4		MI				
MEDORA		59.5	34.5	38	6	14.9	98	55.4	110	3	4		MI				
SCEPTRE		59.4	31.6	24	7	14.1	93	56.3	110	3	3		MJ				
D 8460		59.4	32.9	23	7	14.6	103	57.5	110	3	4		MI				
D 8475		61.0	33.8	20	9	14.2	98	60.1	95	4	4		MI				
D 86117		60.3	35.5	29	6	14.2	98	57.3	95	4	4						
D 86398		60.6	37.0	41	4	14.8	99	60.4	95	5	4						
D 86741		61.6	34.5	31	6	13.5	94	62.9	110	3	4		MI				
D 86747		62.6	42.4	62	3	14.1	102	60.7	100	4	4						
D 87038		59.3	36.9	33	5	14.9	101	58.2	100	4	4						
D 87373		60.0	33.6	18	8	14.0	100	60.8	100	3	4		MI				
D 87436		62.0	41.0	51	3	13.8	104	60.8	100	4	4						
D 87443		62.0	38.0	45	4	13.6	96	60.1	105	4	4						
D 87450		59.6	35.0	28	4	13.2	91	60.7	100	3	4		MI				
D 87105		61.0	33.7	28	7	15.0	112	56.8	95	6	4		MI				
D 87121		61.0	42.6	50	4	15.5	107	61.1	105	6	4						
D 87122		60.6	36.4	54	2	15.7	100	59.9	100	6	4						
D 87130		61.3	39.1	48	3	15.5	106	58.5	100	6	4						
D 87141		61.0	35.5	36	4	14.9	100	58.4	95	5	4						
D 87240		59.0	36.1	49	2	15.0	99	57.5	105	6	4						
D 87245		57.7	37.0	38	4	15.4	100	58.5	105	5	4	MI					
N86-435		59.5	34.7	25	6	15.5	109	55.9	110	6	4		MI				
D86-1523		62.0	35.6	31	5	14.4	92	58.6	115	4	4						
D87-1531		60.4	36.5	30	4	14.8	100	57.7	110	4	4						

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.6	37.1	4	14.6	58.3	102
MINOR FAULTING VALUES	58.4	35.0	9	12.5	55.3	92
MAJOR FAULTING VALUES	57.5	32.0	14	11.5	54.3	87

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 6

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=MINNESTOA STATION=CROOKSTON NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		59.8	35.1	33	6	14.9	97	56.3	65	2	1					MJ	MJ
STOA		55.7	23.3	13	11	14.6	68	60.7	30	5	1		MJ				MJ
WARD	S	58.5	23.9	25	6	14.7	98	46.0	100	1	1		MJ			MJ	
RUGBY		59.3	34.5	29	4	14.4	101	43.5	95	1	2					MJ	
VIC	S	58.4	34.0	28	7	14.8	98	78.9	100	3	4						
LLOYD	S	53.2	29.3	8	12	14.5	98	57.9	105	6	2	MJ				MI	
MONROE		54.7	31.3	27	8	14.6	92	59.2	100	4	4						
RENVILLE		59.0	31.3	17	8	14.6	101	62.4	90	4	2						MI
MEDORA		54.6	28.1	14	11	15.4	101	54.6	105	5	2					MJ	
SCEPTRE		55.7	28.8	17	8	14.7	95	59.2	100	4	4						
D 8460		55.0	26.2	9	11	14.7	93	58.9	105	3	4		MI				
D 8475		57.4	31.0	11	8	13.9	90	60.3	100	4	4						
D 86117		56.5	27.0	6	13	13.4	92	58.5	105	4	4						
D 86398		57.7	34.0	25	6	14.1	97	59.6	95	3	4						
D 86741		48.4	19.1	1	31	15.4	83	50.7	100	4	1	MJ	MJ	MJ		MJ	
D 86747		54.7	28.7	19	9	14.9	90	55.8	95	4	2					MJ	
D 87038		57.6	35.0	24	5	14.8	101	59.6	95	4	4						
D 87373		54.9	25.1	6	13	15.0	94	56.9	95	3	2		MI			MJ	
D 87436		54.6	27.6	16	12	14.4	91	57.6	100	4	3					MI	
D 87443		57.0	32.4	31	8	14.0	92	56.5	95	3	2					MJ	
D 87450		54.6	29.8	6	13	13.7	85	58.9	100	3	4						
D 87105		56.7	26.2	10	11	14.6	98	58.1	95	6	4		MI				
D 87121		58.0	31.4	25	6	14.4	94	61.3	95	6	4						
D 87122		58.3	33.6	30	5	14.6	98	60.0	90	4	2						MI
D 87130		59.8	36.5	36	4	14.2	95	62.7	90	5	2						MI
D 87141		58.8	34.0	23	4	14.3	94	60.3	85	4	1						MJ
D 87240		54.9	33.2	30	5	14.7	94	60.0	100	6	4						
D 87245		54.7	32.4	23	6	15.1	99	60.6	100	4	4						
NPB86-435		55.7	27.0	5	14	15.7	99	56.2	105	6	2			MI		MJ	
D86-1523		56.8	29.0	9	12	15.0	99	56.6	105	5	2					MJ	
D87-1531		56.6	29.2	11	11	14.6	96	56.9	100	5	2					MJ	

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	56.7	29.1	8	14.7	60.9	102
MINOR FAULTING VALUES	54.5	27.0	13	12.5	57.9	92
MAJOR FAULTING VALUES	53.6	24.0	18	11.5	56.9	87

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 7

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE-MONTANA STATION=BOZEMAN NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		61.3	29.8	5	10	17.5	97	58.1	85	3	1		MI				MJ
STOA		57.8	23.1	3	13	16.4	64	64.0	35	6	1	MI	MJ	MI			MJ
WARD	S	60.9	32.2	11	7	17.5	107	58.9	105	2	4						
RUGBY		61.3	32.9	16	4	16.9	98	59.6	105	2	4						
VIC	S	61.4	36.4	14	4	16.5	101	59.9	105	3	4						
LLOYD	S	58.8	30.7	7	10	16.7	102	58.7	115	3	4		MI				
MONORE		61.4	39.1	36	3	16.0	98	62.0	105	3	4						
RENVILLE		61.8	34.8	14	4	15.5	100	64.4	100	3	4						
MEDORA		62.8	37.2	30	2	16.7	104	60.6	100	3	4						
SCEPTRE		61.4	32.2	20	5	16.0	101	60.4	100	3	4						
D 8460		60.6	30.7	12	6	16.2	100	60.0	115	3	4		MI				
D 8475		61.8	30.8	7	7	15.7	102	62.3	110	5	4		MI				
D 86117		61.8	28.0	6	12	15.7	94	61.1	110	4	4		MI	MI			
D 86398		61.1	33.8	19	5	16.4	101	59.4	105	3	4						
D 86741		60.7	28.7	7	10	15.4	95	59.9	115	3	4		MI				
D 86747		62.5	37.7	38	2	15.2	99	60.2	115	3	4						
D 87038		61.4	40.2	28	2	14.6	102	61.6	105	3	4						
D 87373		62.8	34.8	26	3	14.2	97	62.8	105	2	4						
D 87436		62.8	39.7	39	4	14.2	98	61.8	100	3	4						
D 87443		61.9	37.0	33	4	14.4	93	63.1	100	3	4						
D 87450		60.6	34.0	14	6	14.2	88	60.7	115	3	4						
D 87105		62.0	36.1	29	2	15.9	104	60.2	95	6	2						MI
D 87121		62.2	40.0	36	2	16.6	100	62.0	100	4	4						
D 87122		61.2	36.9	33	2	16.7	98	62.0	100	4	4						
D 87130		62.4	33.7	21	4	16.7	98	61.1	95	6	2						MI
D 87141		60.9	34.5	18	3	16.6	95	59.9	95	5	2						MI
D 87240		60.3	33.2	20	3	16.1	93	60.6	110	6	4						
D 87245		58.3	35.6	17	4	16.5	98	61.5	110	5	4						
NPB86-435		61.0	31.7	5	8	16.5	98	60.0	115	6	4						
D86-1523		61.8	32.3	8	6	15.7	94	59.4	120	6	4						
D87-1531		62.0	33.3	13	7	15.0	92	60.6	115	3	4						

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.4	33.1	7	16.9	59.2	108
MINOR FAULTING VALUES	58.2	31.0	12	12.5	56.2	98
MAJOR FAULTING VALUES	57.3	28.0	17	11.5	55.2	93

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 8

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=MONTANA STATION=SIDNEY NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		59.2	27.1	8	13	15.8	90	56.9	85	1	1		MJ	MI			MJ
STOA		58.7	26.9	15	5	15.5	65	65.6	35	6	1		MJ				MJ
WARD	S	59.0	37.0	37	3	16.3	100	59.5	95	1	4						
RUGBY		58.6	36.5	36	4	16.8	99	60.1	100	1	4						
VIC	S	59.3	40.3	43	3	16.2	99	59.8	100	3	4						
LLOYD	S	55.8	32.8	15	9	16.6	92	57.1	105	5	4	MI	MI				
MONORE		57.6	38.9	44	2	16.4	93	58.9	100	3	4						
RENVILLE		59.4	35.1	20	5	16.5	99	62.2	95	4	4						
MEDORA		59.0	35.8	33	4	16.6	100	59.4	100	3	4						
SCEPTRE		58.2	32.5	36	4	15.4	99	59.2	100	3	4		MI				
D 8460		58.6	35.5	29	5	16.2	93	61.0	110	4	4						
D 8475		58.8	32.7	18	4	15.9	99	59.1	95	4	4		MI				
D 86117		58.7	33.1	17	7	16.4	91	59.9	110	5	4		MI				
D 86398		58.0	34.5	38	3	16.8	91	58.8	100	3	4		MI				
D 86741		59.5	36.1	38	3	15.0	88	60.1	100	2	4						
D 86747		59.5	38.3	54	3	15.7	93	58.7	105	3	4						
D 87038		59.1	35.1	31	5	16.2	97	58.1	100	3	4						
D 87373		60.2	35.5	37	4	16.7	97	58.4	95	2	4						
D 87436		59.8	39.1	45	4	15.5	100	59.4	100	3	4						
D 87443		61.6	37.7	44	5	15.7	96	61.0	100	3	4						
D 87450		57.9	34.1	37	4	15.2	87	60.6	105	2	4		MI				
D 87105		61.8	35.8	46	4	15.3	99	60.6	90	5	2						MI
D 87121		60.8	42.4	54	2	16.4	91	60.8	100	4	4						
D 87122		59.7	39.5	63	3	16.3	99	61.0	100	3	4						
D 87130		61.3	41.5	60	2	16.6	98	60.1	90	5	2						MI
D 87141		59.7	36.5	41	1	15.5	92	59.0	90	3	2						MI
D 87240		58.0	32.2	40	4	16.1	92	59.2	105	5	4		MI				
D 87245		56.9	31.1	28	6	17.0	90	60.8	105	4	3		MJ				
NPB86-435		58.5	30.2	10	10	16.6	99	56.0	105	4	3		MJ	MI			
D86-1523		60.6	33.7	31	5	16.5	97	59.8	110	4	4		MI				
D87-1531		60.2	33.3	23	7	15.6	90	58.7	110	4	4		MI				

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	58.0	36.7	5	16.4	58.8	100
MINOR FAULTING VALUES	55.8	34.6	10	12.5	55.8	90
MAJOR FAULTING VALUES	54.9	31.6	15	11.5	54.8	85

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=DICKINSON NURSERY=UNIFORM

TABLE 9

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		59.1	28.3	4	10	17.9	92	59.3	85	2	1		MJ				MJ
STOA		56.6	22.1	2	13	16.4	63	64.2	40	6	1	MI	MJ	MI			MJ
WARD	S	59.8	34.0	19	4	18.2	107	61.2	105	2	4						
RUGBY		59.5	32.5	14	7	18.1	107	58.8	110	2	4						
VIC	S	60.5	35.5	17	5	17.7	104	60.6	115	6	4						
LLOYD	S	56.5	31.9	7	10	18.0	95	55.5	105	6	3	MI				MI	
MONROE		60.9	41.7	54	3	16.8	108	60.8	105	4	4						
RENVILLE		58.9	31.4	5	10	17.4	103	61.2	105	4	4		MI				
MEDORA		60.8	35.7	29	4	18.0	102	58.3	110	3	4						
SCEPTRE		59.5	32.8	18	6	17.2	98	57.8	105	3	4						
D 8460		58.5	29.8	8	7	17.9	102	59.6	110	3	4		MI				
D 8475		60.7	33.8	14	5	17.0	99	59.2	110	6	4						
D 86117		59.2	27.6	7	10	16.6	93	58.7	110	6	3		MJ				
D 86398		59.4	34.1	19	4	17.7	98	59.0	115	6	4						
D 86741		60.6	37.9	34	5	16.4	94	59.6	110	3	4						
D 86747		61.0	42.4	63	2	16.9	91	57.9	115	3	4						
D 87038		59.1	33.7	17	7	17.1	99	56.9	105	6	4						
D 87373		59.8	30.8	12	7	17.2	95	56.6	105	2	4		MI				
D 87436		62.4	40.0	52	2	16.4	102	58.4	105	3	4						
D 87443		61.3	35.7	24	6	16.4	95	59.0	105	5	4						
D 87450		59.9	40.2	37	3	15.6	96	60.1	115	3	4						
D 87105		61.0	32.8	20	7	17.3	106	57.9	105	7	4						
D 87121		61.0	42.6	59	1	17.6	106	59.4	110	4	4						
D 87122		61.3	39.2	51	2	17.4	102	59.1	105	4	4						
D 87130		61.6	41.8	46	3	17.6	116	59.2	100	5	4						
D 87141		61.1	36.0	29	4	17.1	100	58.7	100	6	4						
D 87240		57.3	34.5	35	4	17.3	96	57.8	105	6	4						
D 87245		57.6	35.1	28	4	17.6	99	58.9	105	5	4						
NPB86-435		59.5	33.0	16	7	17.1	106	58.3	110	6	4						
D86-1523		60.7	33.3	18	6	17.2	98	60.6	110	6	4						
D87-1531		60.6	33.6	16	6	17.1	100	58.3	110	6	4						

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	58.9	33.8	6	18.0	59.1	108
MINOR FAULTING VALUES	56.7	31.7	11	12.5	56.1	98
MAJOR FAULTING VALUES	55.8	28.7	16	11.5	55.1	93

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=CARRINGTON NURSERY=UNIFORM

TABLE 10

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		61.0	34.0	41	6	10.8	64	62.0	60	0	1				MJ		MJ
STOA		53.1	22.0	7	14	13.6	64	60.2	35	4	1	MJ	MJ	MI			MJ
WARD	S	58.7	36.4	33	5	12.5	87	61.3	90	1	3				MI		
RUGBY		59.8	35.7	34	5	11.9	83	61.0	95	0	3				MI		
VIC	S	59.8	40.3	42	5	12.2	88	61.8	90	2	3				MI		
LLOYD	S	50.9	28.0	8	13	13.8	85	54.1	100	3	1	MJ	MJ	MI		MJ	
MONROE		57.0	34.7	33	6	12.1	84	60.1	95	2	3				MI		
RENVILLE		57.9	33.1	24	6	11.6	81	63.0	90	2	3				MI		
MEDORA		57.8	32.8	28	7	12.8	91	58.1	100	3	4		MI				
SCEPTRE		57.0	32.6	26	6	11.8	86	59.4	90	3	3		MI		MI		
D 8460		57.2	24.1	24	5	12.2	85	61.0	105	3	2		MJ		MI		
D 8475		58.7	33.0	16	6	11.7	83	61.8	95	2	3				MI		
D 86117		55.3	29.8	17	11	12.6	83	57.6	100	3	3		MJ				
D 86398		58.1	37.2	37	4	12.1	84	59.6	100	2	3				MI		
D 86741		53.4	26.2	14	12	13.2	85	55.9	100	2	2	MI	MJ			MI	
D 86747		54.7	28.3	18	7	13.4	83	55.3	100	3	2		MJ			MI	
D 87038		54.4	31.1	21	7	13.8	93	55.0	90	3	2		MI			MJ	
D 87373		55.5	26.7	14	10	12.8	82	55.0	95	2	1		MJ			MJ	
D 87436		55.2	29.8	23	8	13.1	96	56.2	100	3	3		MJ				
D 87443		56.2	29.8	19	11	12.3	84	57.6	100	3	2		MJ		MI		
D 87450		53.6	31.2	14	10	12.2	81	57.8	100	2	3	MI	MI		MI		
D 87105		56.3	26.8	10	12	12.5	88	56.9	100	3	2		MJ		MI		
D 87121		57.8	36.0	37	4	12.3	83	62.8	100	3	3				MI		
D 87122		58.5	34.5	44	3	12.3	82	63.5	90	3	3				MI		
D 87130		59.5	38.0	46	3	11.7	82	65.7	80	2	1				MI		MI
D 87141		58.0	34.2	28	5	12.4	87	60.3	95	2	3				MI		
D 87240		55.5	35.5	47	4	12.4	80	61.1	100	3	3				MI		
D 87245		54.5	31.1	36	5	12.8	83	60.6	100	2	4		MI				
NPB86-435		51.4	24.9	4	18	15.4	91	53.7	100	4	1	MJ	MJ	MJ		MJ	
D86-1523		52.8	25.6	8	18	14.6	92	53.5	100	3	1	MJ	MJ	MJ		MJ	
D87-1531		53.7	28.8	13	14	13.9	86	57.5	100	3	3	MI	MJ	MI			

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	56.5	34.9	8	12.8	59.1	93
MINOR FAULTING VALUES	54.3	32.8	13	12.5	56.1	83
MAJOR FAULTING VALUES	53.4	29.8	18	11.5	55.1	78

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=WILLISTON NURSERY=UNIFORM

TABLE 11

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		58.2	26.8	4	11	18.7	97	57.7	85	3	1		MI				MJ
STOA		58.9	26.1	8	6	16.3	66	62.9	35	7	1		MI				MJ
WARD	S	60.6	32.4	19	6	17.9	110	57.6	100	3	4						
RUGBY		60.2	31.4	15	8	18.3	108	57.8	100	2	4						
VIC	S	60.9	31.8	15	7	17.3	103	59.6	105	6	4						
LLOYD	S	56.6	29.0	4	11	18.1	100	54.9	105	8	4	MI					
MONROE		60.1	35.1	41	4	17.5	108	56.8	105	7	4						
RENVILLE		58.8	29.2	7	10	18.1	105	58.7	95	6	4						
MEDORA		60.3	35.1	29	3	18.0	112	57.3	105	4	4						
SCEPTRE		59.0	33.3	29	4	17.4	106	57.5	105	4	4						
D 8460		58.2	29.2	17	7	18.0	99	57.9	100	4	4						
D 8475		60.3	34.2	18	5	17.0	103	59.0	105	6	4						
D 86117		59.7	30.3	11	10	17.6	105	57.0	110	7	4						
D 86398		58.4	30.2	12	7	18.1	100	57.5	105	8	4						
D 86741		60.3	34.6	31	6	16.9	100	58.4	110	5	4						
D 86747		61.8	42.4	65	3	17.3	99	57.5	105	5	4						
D 87038		58.7	31.1	8	9	18.1	110	55.4	100	6	4						
D 87373		59.6	28.5	13	7	17.8	97	56.1	95	4	4		MI				
D 87436		62.0	35.1	40	4	16.9	103	57.5	100	6	4						
D 87443		61.0	21.9	17	9	17.5	98	58.4	105	7	3		MJ				
D 87450		59.0	36.2	39	6	16.5	92	59.0	105	5	4						
D 87105		61.3	21.7	21	5	17.3	104	58.2	100	8	3		MJ				
D 87121		61.8	38.6	53	2	17.4	99	58.5	100	7	4						
D 87122		59.4	32.5	27	4	18.3	94	57.9	100	7	4						
D 87130		61.2	34.8	27	5	18.1	107	58.7	100	7	4						
D 87141		59.9	33.3	22	4	17.8	98	57.2	100	7	4						
D 87240		56.8	30.0	23	5	17.9	95	56.3	105	7	4	MI					
D 87245		56.1	29.4	12	7	18.6	102	57.7	100	6	3	MJ					
NPB86-435		59.2	31.0	12	9	18.0	102	55.4	110	6	4						
D86-1523		61.8	38.5	39	4	17.2	100	58.8	110	6	4						
D87-1531		61.2	33.6	20	5	17.2	101	58.7	110	6	4						

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	59.4	31.1	8	17.8	57.4	103
MINOR FAULTING VALUES	57.2	29.0	13	12.5	54.4	93
MAJOR FAULTING VALUES	56.3	26.0	18	11.5	53.4	88

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 12

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=PROSPER NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		59.4	31.8	29	9	15.9	100	58.3	75	2	1		MI	MI			MJ
STOA		56.0	26.2	17	7	14.6	58	63.4	35	5	1		MJ				MJ
WARD	S	58.6	34.5	38	4	15.5	89	56.8	100	2	4						
RUGBY		59.0	36.1	40	4	15.6	97	59.4	100	2	4						
VIC	S	59.4	39.2	44	3	15.6	97	61.6	100	5	4						
LLOYD	S	55.8	35.7	25	5	15.1	83	57.6	105	5	4						
MONROE		57.4	37.7	49	3	14.9	97	59.6	100	5	4						
RENVILLE		57.9	34.0	24	7	15.9	93	61.5	95	4	4		MI				
MEDORA		56.8	33.2	36	4	16.0	105	57.5	110	5	4		MI				
SCEPTRE		57.7	33.7	38	4	14.8	94	59.8	100	4	4		MI				
D 8460		57.0	32.9	26	6	15.4	99	59.9	105	4	4		MI				
D 8475		59.0	36.8	25	4	14.7	88	60.5	95	4	4						
D 86117		58.0	33.4	22	6	14.9	101	58.3	100	6	4		MI				
D 86398		57.8	36.2	42	4	15.3	88	58.4	105	3	4						
D 86741		58.2	34.1	32	4	14.1	85	59.8	110	3	4		MI				
D 86747		60.0	42.4	63	2	14.7	88	59.2	105	3	4						
D 87038		55.4	35.0	34	5	17.1	100	54.4	90	4	1	MI				MJ	MI
D 87373		55.4	29.2	18	8	15.8	92	54.6	100	3	1	MI	MJ			MJ	
D 87436		57.6	35.6	43	4	14.9	98	56.2	100	4	4						
D 87443		56.2	32.9	29	6	15.5	93	56.2	95	5	4		MI				
D 87450		56.1	36.9	28	3	13.9	89	59.8	100	4	4						
D 87105		57.3	29.8	23	8	16.1	96	57.1	95	6	3		MJ				
D 87121		59.0	40.0	52	2	15.6	105	61.3	100	6	4						
D 87122		58.9	37.7	50	3	16.1	89	59.2	100	5	4						
D 87130		61.0	40.8	59	2	15.5	93	59.5	95	5	4						
D 87141		58.3	37.0	33	5	15.4	96	56.8	95	4	4						
D 87240		57.4	38.0	54	1	15.9	96	58.9	95	4	4						
D 87245		55.4	35.5	33	3	16.4	95	57.3	95	3	4	MI					
NPB86-435		53.8	29.2	12	11	16.8	94	55.3	105	6	1	MJ	MJ	MI		MI	
D86-1523		57.4	34.7	24	7	15.6	93	57.8	105	4	4						
D87-1531		56.2	33.2	18	7	15.3	89	56.2	105	5	4		MI				

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	57.9	36.5	4	15.4	58.7	102
MINOR FAULTING VALUES	55.7	34.4	9	12.5	55.7	92
MAJOR FAULTING VALUES	54.8	31.4	14	11.5	54.7	87

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 13

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=LANGDON NURSERY=UNIFORM

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
MINDUM		60.6	31.8	31	8	14.4	85	44.9	65	2	1		MI			MJ	MJ
STOA		59.5	27.5	32	6	14.3	70	52.7	30	3	1		MJ			MJ	MJ
WARD	S	62.0	35.8	44	4	14.7	98	59.1	95	3	4						
RUGBY		61.8	34.8	41	5	14.5	97	59.1	100	3	4						
VIC	S	61.2	37.7	50	3	14.6	98	60.3	105	4	4						
LLOYD	S	53.8	28.3	10	13	14.0	89	51.4	110	4	1	MJ	MJ	MI		MJ	
MONROE		60.6	37.9	54	2	14.2	100	58.8	95	4	4						
RENVILLE		60.5	33.0	26	6	14.2	102	59.6	100	4	4						
MEDORA		61.4	34.5	41	3	14.7	99	58.4	105	4	4						
SCEPTRE		59.6	31.7	36	5	14.2	100	59.0	100	4	4		MI				
D 8460		61.0	35.0	40	3	14.0	94	61.0	105	4	4						
D 8475		61.6	36.5	36	2	13.8	97	60.7	105	4	4						
D 86117		55.7	27.4	8	16	13.8	94	52.5	110	4	1	MJ	MJ	MI		MJ	
D 86398		61.1	38.2	49	4	14.1	96	57.1	100	4	4						
D 86741		55.5	26.2	9	12	13.4	85	54.3	110	4	2	MJ	MJ	MI			
D 86747		59.1	29.8	25	5	13.8	89	53.9	105	4	3		MI			MI	
D 87038		59.5	35.1	31	5	13.5	93	56.9	100	4	4						
D 87373		57.8	28.1	18	8	14.0	92	55.0	95	4	3		MJ				
D 87436		58.2	29.6	20	9	13.4	99	53.7	105	4	3		MI			MI	
D 87443		60.5	33.0	28	7	13.3	96	57.3	105	4	4						
D 87450		58.4	33.9	31	6	12.2	87	58.7	110	3	3				MI		
D 87105		62.8	34.6	47	3	13.9	98	57.6	95	6	4						
D 87121		61.7	41.8	61	3	14.8	94	60.0	100	6	4						
D 87122		62.6	38.2	61	2	14.6	93	59.4	105	6	4						
D 87130		62.9	40.3	66	1	14.4	100	60.0	90	4	2						MI
D 87141		62.1	36.4	48	2	13.9	98	59.4	90	4	2						MI
D 87240		59.5	38.9	60	2	14.0	89	60.4	110	4	4						
D 87245		59.8	38.3	59	3	14.1	101	60.6	105	4	4						
NPB86-435		52.8	23.4	4	21	15.6	97	50.0	105	6	1	MJ	MJ	MJ		MJ	
D86-1523		56.8	26.3	8	16	14.4	80	52.3	105	5	1		MJ	MI		MJ	
D87-1531		55.8	26.2	6	16	14.4	84	53.9	105	5	1	MJ	MJ	MI		MI	

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	59.0	33.9	7	14.4	56.9	103
MINOR FAULTING VALUES	56.8	31.8	12	12.5	53.9	93
MAJOR FAULTING VALUES	55.9	28.8	17	11.5	52.9	88

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=NORTH DAKOTA STATION=MINOT NURSERY=UNIFORM

TABLE 14

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
WARD	S	60.3	36.1	54	2	14.8	100	59.0	85	1	2						MI
RUGBY		61.0	38.2	52	3	15.9	105	58.7	100	1	4						
VIC	S	58.6	36.5	55	2	15.8	101	58.6	95	4	4						
LLOYD	S	55.8	35.5	37	3	15.2	98	57.1	105	4	4	MI					
MONROE		58.6	42.4	65	2	15.9	106	59.7	95	4	4						
RENVILLE		60.5	38.5	35	2	15.9	108	61.5	90	4	4						
MEDORA		61.8	37.6	43	3	15.5	95	58.5	100	4	4						
SCEPTRE		58.4	36.6	52	1	15.4	101	59.4	95	3	4						
D 8460		58.2	34.1	41	2	14.7	100	59.4	100	3	4						
D 8475		59.9	38.2	44	1	14.6	94	58.7	95	3	4						
D 86117		58.7	35.7	32	4	13.9	92	59.4	95	3	4						
D 86398		60.0	40.2	64	1	14.8	95	58.7	90	3	4						
D 86741		57.4	35.7	52	1	13.9	83	59.4	105	3	4						
D 86747		59.7	42.9	74	1	14.6	91	59.2	100	3	4						
D 87038		58.4	38.3	48	3	14.9	94	57.3	90	3	4						
D 87373		58.5	33.1	37	2	14.9	88	59.1	100	2	4		MI				
D 87436		60.3	41.0	67	0	14.7	99	59.2	100	3	4						
D 87443		60.4	40.5	57	2	14.5	98	60.8	100	3	4						
D 87450		58.8	40.0	54	2	13.9	89	61.5	100	2	4						
D 87105		60.6	36.8	52	1	15.3	101	58.2	95	5	4						
D 87121		59.8	43.1	70	1	15.6	96	59.7	95	5	4						
D 87122		60.1	38.6	67	1	15.7	95	59.0	90	3	4						
D 87130		60.3	40.2	66	1	15.6	104	58.4	85	3	2						MI
D 87141		59.7	39.1	59	2	15.3	99	57.2	85	3	2						MI
D 87240		58.4	38.8	61	1	14.9	97	58.3	100	5	4						
D 87245		58.3	39.8	55	2	15.5	99	59.2	85	4	2						MI
D86-1523		59.8	39.1	47	3	15.3	101	58.7	110	5	4						
D87-1531		58.8	34.8	36	5	14.9	94	56.0	105	5	4						
LAKER		58.5	35.6	47	3	14.2	93	58.5	90	5	4						
STOCKHOLM		56.6	31.8	19	5	14.8	96	55.3	100	3	4		MI				
FJORD		61.3	40.3	56	2	15.6	98	57.8	115	5	4						
REGAL		60.6	37.9	41	2	15.2	96	59.4	100	4	4						

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	58.2	36.0	2	15.3	58.2	95
MINOR FAULTING VALUES	56.0	33.9	7	12.5	55.2	85
MAJOR FAULTING VALUES	55.1	30.9	12	11.5	54.2	80

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 15

VARIETY=D 8460

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.1727273	1.7877868	55.0000000	61.0000000	3.1961818	3.0732388
K_WT	30.7545455	3.7073882	24.1000000	35.5000000	13.7447273	12.0547651
LARGE	21.7272727	11.7821128	8.0000000	41.0000000	138.8181818	54.2272974
SMALL	6.0909091	2.4271195	2.0000000	11.0000000	5.8909091	39.8482307
WHT_PRO	15.2545455	1.7357210	12.2000000	18.0000000	3.0127273	11.3783854
HARD	96.3636364	5.4087471	85.0000000	103.0000000	29.2545455	5.6128508
S_EXT	59.3272727	1.5291114	56.4000000	61.0000000	2.3381818	2.5774174
DU	106.8181818	4.6220814	100.0000000	115.0000000	21.3636364	4.3270549
MIXO	3.3636364	0.5045250	3.0000000	4.0000000	0.2545455	14.9993913

VARIETY=D 8475

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.7181818	1.5065312	57.4000000	61.8000000	2.2696364	2.5227346
K WT	33.7000000	2.6381812	29.9000000	38.2000000	6.9600000	7.8284308
LARGE	19.6363636	11.5522528	7.0000000	44.0000000	133.4545455	58.8309172
SMALL	5.3636364	2.5405797	1.0000000	9.0000000	6.4545455	47.3667411
WHT PRO	14.7454545	1.5718547	11.7000000	17.0000000	2.4707273	10.6599272
HARD	94.9090909	6.2682461	83.0000000	103.0000000	39.2909091	6.6044739
S_EXT	59.6818182	1.9858591	54.8000000	62.3000000	3.9436364	3.3274105
DU	100.9090909	6.2522723	95.0000000	110.0000000	39.0909091	6.1959455
MIXO	4.0909091	1.2210279	2.0000000	6.0000000	1.4909091	29.8473482

VARIETY=D 86117

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.9363636	2.4695233	53.4000000	61.8000000	6.0985455	4.2624755
K_WT	30.3545455	3.5126525	26.1000000	35.7000000	12.3387273	11.5720806
LARGE	14.5454545	9.6474208	5.0000000	32.0000000	93.0727273	66.3260177
SMALL	9.7272727	3.6080718	4.0000000	16.0000000	13.0181818	37.0923265
WHT_PRO	14.8545455	1.5377670	12.6000000	17.6000000	2.3647273	10.3521645
HARD	93.8181818	5.9130057	83.0000000	105.0000000	34.9636364	6.3026224
S_EXT	57.7818182	2.3382977	52.5000000	61.1000000	5.4676364	4.0467708
DU	105.0000000	6.3245553	95.0000000	110.0000000	40.0000000	6.0233860
MIXO	4.5454545	1.2933396	3.0000000	7.0000000	1.6727273	28.4534708

VARIETY=D 86398

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.0181818	1.4777132	57.0000000	61.1000000	2.1836364	2.5038271
K_WT	35.2000000	2.8965497	30.2000000	40.2000000	8.3900000	8.2288343
LARGE	33.7272727	15.3563727	12.0000000	64.0000000	235.8181818	45.5310241
SMALL	4.2727273	1.5550504	1.0000000	7.0000000	2.4181818	36.3947971
WHT_PRO	15.2909091	1.7991412	12.1000000	18.1000000	3.2369091	11.7660840
HARD	94.6363636	5.3342802	84.0000000	101.0000000	28.4545455	5.6366073
S_EXT	58.5000000	1.4979987	55.0000000	60.4000000	2.2440000	2.5606815
DU	102.2727273	7.8624539	90.0000000	115.0000000	61.8181818	7.6877327
MIXO	3.9090909	1.7580981	2.0000000	8.0000000	3.0909091	44.9746037

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 16

VARIETY=D 86741

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.1818182	4.1026377	48.4000000	61.6000000	16.8316364	7.1747242
K_WT	30.7727273	5.9523257	19.1000000	37.9000000	35.4301818	19.3428606
LARGE	23.1818182	16.4366553	1.0000000	52.0000000	270.1636364	70.9032188
SMALL	9.4545455	8.2748249	1.0000000	31.0000000	68.4727273	87.5221865
WHT_PRO	14.6272727	1.2697172	13.2000000	16.9000000	1.6121818	8.6804782
HARD	88.7272727	5.9344909	83.0000000	100.0000000	35.2181818	6.6884631
S_EXT	57.7363636	3.5466245	50.7000000	62.9000000	12.5785455	6.1427916
DU	106.8181818	5.1345532	100.0000000	115.0000000	26.3636364	4.8068157
MIXO	3.1818182	0.8738629	2.0000000	5.0000000	0.7636364	27.4642625

VARIETY=D 86747

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.1454545	3.0256780	54.7000000	62.6000000	9.1547273	5.1156560
K_WT	36.8454545	6.3149606	28.3000000	42.9000000	39.8787273	17.1390492
LARGE	45.5454545	21.7594285	18.0000000	74.0000000	473.4727273	47.7751922
SMALL	3.9090909	2.5081685	1.0000000	9.0000000	6.2909091	64.1624493
WHT_PRO	14.9545455	1.2524884	13.4000000	17.3000000	1.5687273	8.3753026
HARD	91.3636364	6.7122683	80.0000000	102.0000000	45.0545455	7.3467613
S_EXT	57.4181818	2.5301455	53.2000000	60.7000000	6.4016364	4.4065232
DU	104.0909091	6.2522723	95.0000000	115.0000000	39.0909091	6.0065498
MIXO	3.4545455	0.6875517	3.0000000	5.0000000	0.4727273	19.9028109

VARIETY=D 87038

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.7545455	2.6295869	52.4000000	61.4000000	6.9147273	4.5530389
K_WT	34.6000000	3.2668027	29.1000000	40.2000000	10.6720000	9.4416264
LARGE	26.4545455	10.8753265	8.0000000	48.0000000	118.2727273	41.1094818
SMALL	5.5454545	2.0670576	2.0000000	9.0000000	4.2727273	37.2748098
WHT_PRO	15.4818182	1.4600125	13.5000000	18.1000000	2.1316364	9.4304973
HARD	97.9090909	6.0902306	87.0000000	110.0000000	37.0909091	6.2202913
S_EXT	57.0090909	2.3428421	53.7000000	61.6000000	5.4889091	4.1095939
DU	97.2727273	5.6407607	90.0000000	105.0000000	31.8181818	5.7989129
MIXO	4.0000000	1.0954451	3.0000000	6.0000000	1.2000000	27.3861279

VARIETY=D 87105

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.7727273	2.4763243	56.3000000	62.8000000	6.1321818	4.1428999
K_WT	30.9000000	5.1365358	21.7000000	36.8000000	26.3840000	16.6230932
LARGE	26.4545455	15.9709964	5.0000000	52.0000000	255.0727273	60.3714642
SMALL	6.6363636	4.0809981	1.0000000	13.0000000	16.6545455	61.4944918
WHT_PRO	15.2454545	1.4137635	12.5000000	17.3000000	1.9987273	9.2733445
HARD	100.5454545	6.1540822	88.0000000	112.0000000	37.8727273	6.1206965
S_EXT	57.6454545	2.1020769	52.5000000	60.6000000	4.4187273	3.6465614
DU	96.8181818	4.0451992	90.0000000	105.0000000	16.3636364	4.1781400
MIXO	5.7272727	1.2720778	3.0000000	8.0000000	1.6181818	22.2108815

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 17

VARIETY=D 87121

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	60.1181818	1.6302259	57.8000000	62.2000000	2.6576364	2.7117019
K_WT	39.2000000	4.1267421	31.4000000	43.1000000	17.0300000	10.5274032
LARGE	47.1818182	15.2237852	22.0000000	70.0000000	231.7636364	32.2662114
SMALL	3.0000000	1.7888544	1.0000000	6.0000000	3.2000000	59.6284794
WHT_PRO	15.4727273	1.5569784	12.3000000	17.6000000	2.4241818	10.0627278
HARD	97.3636364	7.1312373	83.0000000	107.0000000	50.8545455	7.3243334
S_EXT	60.1727273	2.1081228	55.0000000	62.8000000	4.4441818	3.5034523
DU	100.4545455	4.1560471	95.0000000	110.0000000	17.2727273	4.1372414
MIXO	5.0000000	1.2649111	3.0000000	7.0000000	1.6000000	25.2982213

VARIETY=D 87122

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.7545455	1.6518860	56.7000000	62.6000000	2.7287273	2.7644524
K_WT	36.1818182	2.8957963	30.9000000	39.5000000	8.3856364	8.0034572
LARGE	45.8181818	15.2762442	24.0000000	67.0000000	233.3636364	33.3410091
SMALL	2.9090909	1.3003496	1.0000000	5.0000000	1.6909091	44.6995176
WHT_PRO	15.6272727	1.6535362	12.3000000	18.3000000	2.7341818	10.5810923
HARD	94.6363636	5.7666754	82.0000000	102.0000000	33.2545455	6.0935091
S_EXT	59.7272727	1.9915275	56.0000000	63.5000000	3.9661818	3.3343687
DU	98.1818182	5.6003247	90.0000000	105.0000000	31.3636364	5.7040344
MIXO	4.3636364	1.4333686	3.0000000	7.0000000	2.0545455	32.8480297

VARIETY=D 87130

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	60.9636364	1.1491499	59.3000000	62.9000000	1.3205455	1.8849759
K_WT	38.2454545	3.0362357	33.7000000	41.8000000	9.2187273	7.9388145
LARGE	46.1818182	15.5680325	21.0000000	66.0000000	242.3636364	33.7103066
SMALL	2.8181818	1.2504545	1.0000000	5.0000000	1.5636364	44.3709648
WHT_PRO	15.4181818	1.8530074	11.7000000	18.1000000	3.4336364	12.0183262
HARD	99.2727273	8.9787628	82.0000000	116.0000000	80.6181818	9.0445413
S_EXT	60.0272727	2.4767280	56.4000000	65.7000000	6.1341818	4.1260046
DU	92.7272727	6.4666979	80.0000000	100.0000000	41.8181818	6.9738899
MIXO	4.6363636	1.5015144	2.0000000	7.0000000	2.2545455	32.3856044

VARIETY=D 87141

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.7545455	1.4187062	57.8000000	62.1000000	2.0127273	2.3742231
K_WT	35.2909091	2.0250701	31.7000000	39.1000000	4.1009091	5.7382204
LARGE	31.8181818	13.5854200	13.0000000	59.0000000	184.5636364	42.6970343
SMALL	3.7272727	1.6787441	1.0000000	7.0000000	2.8181818	45.0394764
WHT_PRO	15.1909091	1.5680909	12.4000000	17.8000000	2.4589091	10.3225613
HARD	96.0909091	3.9358492	87.0000000	100.0000000	15.4909091	4.0959642
S_EXT	58.1818182	2.1724724	52.8000000	60.3000000	4.7196364	3.7339370
DU	93.1818182	5.1345532	85.0000000	100.0000000	26.3636364	5.5102522
MIXO	4.1818182	1.4709304	2.0000000	7.0000000	2.1636364	35.1744236

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 18

VARIETY=D 87240

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.3909091	1.9289658	54.2000000	60.3000000	3.7209091	3.3610999
K_WT	34.8000000	2.9325757	30.0000000	38.9000000	8.6000000	8.4269416
LARGE	41.0000000	14.2618372	20.0000000	61.0000000	203.4000000	34.7849688
SMALL	3.2727273	1.5550504	1.0000000	5.0000000	2.4181818	47.5154296
WHT_PRO	15.3545455	1.5351636	12.4000000	17.9000000	2.3567273	9.9981051
HARD	93.1818182	5.1150402	80.0000000	99.0000000	26.1636364	5.4893114
S_EXT	58.5454545	2.1257298	53.9000000	61.1000000	4.5187273	3.6309050
DU	103.1818182	4.6220814	95.0000000	110.0000000	21.3636364	4.4795502
MIXO	5.0909091	1.2210279	3.0000000	7.0000000	1.4909091	23.9844763

VARIETY=D 87245

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	56.7363636	1.7625395	54.5000000	59.8000000	3.1065455	3.1065429
K_WT	34.3909091	3.2712244	29.4000000	39.8000000	10.7009091	9.5118870
LARGE	32.7272727	14.2974887	12.0000000	59.0000000	204.4181818	43.6867709
SMALL	4.4545455	1.5075567	2.0000000	7.0000000	2.2727273	33.8431101
WHT_PRO	15.7545455	1.6800974	12.8000000	18.6000000	2.8227273	10.6642074
HARD	96.6363636	5.5726605	83.0000000	102.0000000	31.0545455	5.7666290
S_EXT	59.2000000	1.8401087	55.5000000	61.5000000	3.3860000	3.1082917
DU	100.9090909	6.6400986	85.0000000	110.0000000	44.0909091	6.5802779
MIXO	4.0909091	1.1361818	2.0000000	6.0000000	1.2909091	27.7733330

VARIETY=D 87373

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.9000000	3.0305115	52.4000000	62.8000000	9.1840000	5.2340441
K_WT	29.9909091	3.8490140	24.5000000	35.5000000	14.8149091	12.8339359
LARGE	18.5454545	10.8292533	5.0000000	37.0000000	117.2727273	58.3930326
SMALL	7.5454545	3.6156227	2.0000000	13.0000000	13.0727273	47.9178908
WHT_PRO	15.1818182	1.5328524	12.8000000	17.8000000	2.3496364	10.0966323
HARD	92.7272727	5.4606027	82.0000000	100.0000000	29.8181818	5.8888853
S_EXT	56.9545455	3.2063573	51.2000000	62.8000000	10.2807273	5.6296777
DU	98.1818182	4.0451992	95.0000000	105.0000000	16.3636364	4.1201103
MIXO	2.7272727	0.7862454	2.0000000	4.0000000	0.6181818	28.8289977

VARIETY=D 87436

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.9090909	3.4270846	53.1000000	62.8000000	11.7449091	5.8175819
K_WT	34.8636364	5.8908866	25.0000000	41.0000000	34.7025455	16.8969369
LARGE	36.7272727	17.8890520	8.0000000	67.0000000	320.0181818	48.7078149
SMALL	5.5454545	3.8565175	0	12.0000000	14.8727273	69.5437583
WHT_PRO	14.7000000	1.1789826	13.1000000	16.9000000	1.3900000	8.0202899
HARD	98.4545455	3.9840591	91.0000000	104.0000000	15.8727273	4.0465975
S_EXT	57.4909091	2.9887973	51.6000000	61.8000000	8.9329091	5.1987302
DU	100.9090909	2.0225996	100.0000000	105.0000000	4.0909091	2.0043780
MIXO	3.6363636	0.9244163	3.0000000	6.0000000	0.8545455	25.4214476

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 19

VARIETY=D 87443

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.3545455	2.7130660	54.8000000	62.0000000	7.3607273	4.5709490
K_WT	33.3272727	5.3606139	21.9000000	40.5000000	28.7361818	16.0847663
LARGE	31.0909091	13.0495559	15.0000000	57.0000000	170.2909091	41.9722558
SMALL	6.4545455	2.6594600	2.0000000	11.0000000	7.0727273	41.2029008
WHT_PRO	14.6818182	1.4858117	12.3000000	17.5000000	2.2076364	10.1200796
HARD	93.6363636	4.1778637	84.0000000	98.0000000	17.4545455	4.4617962
S_EXT	58.5000000	2.6843994	53.5000000	63.1000000	7.2060000	4.5887169
DU	100.9090909	3.7537860	95.0000000	105.0000000	14.0909091	3.7199681
MIXO	4.0000000	1.2649111	3.0000000	7.0000000	1.6000000	31.6227766

VARIETY=D 87450

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.4090909	2.6538480	53.0000000	60.6000000	7.0429091	4.6226964
K_WT	34.4636364	3.8764088	27.8000000	40.2000000	15.0265455	11.2478231
LARGE	27.2727273	14.4712882	6.0000000	54.0000000	209.4181818	53.0613900
SMALL	6.0909091	3.5058393	2.0000000	13.0000000	12.2909091	57.5585554
WHT_PRO	13.9818182	1.3474555	12.2000000	16.5000000	1.8156364	9.6371981
HARD	88.4545455	3.8565175	81.0000000	96.0000000	14.8727273	4.3598862
S_EXT	59.3909091	1.6896476	55.5000000	61.5000000	2.8549091	2.8449600
DU	104.5454545	6.1051394	100.0000000	115.0000000	37.2727273	5.8396986
MIXO	3.0000000	0.8944272	2.0000000	5.0000000	0.8000000	29.8142397

VARIETY=D86-1523

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.2818182	3.8253936	50.6000000	62.0000000	14.6336364	6.5636141
K_WT	31.9181818	5.3005317	23.0000000	39.1000000	28.0956364	16.6066217
LARGE	20.6363636	14.6851812	4.0000000	47.0000000	215.6545455	71.1616708
SMALL	9.3636364	6.2971855	3.0000000	21.0000000	39.6545455	67.2514958
WHT_PRO	15.6363636	1.0249612	14.4000000	17.2000000	1.0505455	6.5549844
HARD	93.6363636	6.6222765	80.0000000	101.0000000	43.8545455	7.0723341
S_EXT	56.7090909	3.9490390	47.7000000	60.6000000	15.5949091	6.9636789
DU	108.1818182	6.0302269	100.0000000	120.0000000	36.3636364	5.5741593
MIXO	4.8181818	0.9816498	3.0000000	6.0000000	0.9636364	20.3738641

VARIETY=D87-1531

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.0272727	3.1591426	52.8000000	62.0000000	9.9801818	5.4442376
K_WT	31.8090909	3.3242908	26.2000000	36.5000000	11.0509091	10.4507569
LARGE	17.3636364	9.5317651	5.0000000	36.0000000	90.8545455	54.8949821
SMALL	8.5454545	4.0339469	4.0000000	16.0000000	16.2727273	47.2057611
WHT_PRO	15.2545455	1.0376547	13.9000000	17.2000000	1.0767273	6.8022656
HARD	93.0909091	5.7350596	84.0000000	101.0000000	32.8909091	6.1607086
S_EXT	56.8181818	2.7261028	50.5000000	60.6000000	7.4316364	4.7979409
DU	105.9090909	5.8387421	95.0000000	115.0000000	34.0909091	5.5129754
MIXO	4.5454545	1.0357255	3.0000000	6.0000000	1.0727273	22.7859606

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 20

VARIETY=LLOYD

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	54.8272727	3.5205371	46.9000000	59.0000000	12.3941818	6.4211422
K_WT	31.2727273	3.9532495	24.8000000	38.0000000	15.6281818	12.6412049
LARGE	14.6363636	11.8175524	4.0000000	37.0000000	139.6545455	80.7410415
SMALL	9.5454545	3.6976651	3.0000000	14.0000000	13.6727273	38.7374440
WHT_PRO	15.6363636	1.5370574	13.8000000	18.1000000	2.3625455	9.8300183
HARD	93.3636364	7.1312373	83.0000000	102.0000000	50.8545455	7.6381315
S_EXT	55.6181818	2.5226249	51.2000000	58.7000000	6.3636364	4.5356119
DU	105.9090909	4.3693145	100.0000000	115.0000000	19.0909091	4.1255330
MIXO	4.8181818	1.4709304	3.0000000	8.0000000	2.1636364	30.5287450

VARIETY=MEDORA

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.2272727	2.5215435	54.6000000	62.8000000	6.3581818	4.2574028
K_WT	34.0636364	2.8692413	28.1000000	37.6000000	8.2325455	8.4231796
LARGE	30.8181818	8.9310490	14.0000000	43.0000000	79.7636364	28.9798050
SMALL	4.6363636	2.5405797	2.0000000	11.0000000	6.4545455	54.7968181
WHT_PRO	15.7181818	1.5689603	12.8000000	18.0000000	2.4616364	9.9818179
HARD	100.4545455	5.5020657	91.0000000	112.0000000	30.2727273	5.4771695
S_EXT	57.3909091	2.1736856	53.2000000	60.6000000	4.7249091	3.7875086
DU	104.5454545	4.1560471	100.0000000	110.0000000	17.2727273	3.9753494
MIXO	3.6363636	0.8090398	3.0000000	5.0000000	0.6545455	22.2485955

VARIETY=MINDUM

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.9900000	1.3576532	58.2000000	62.6000000	1.8432222	2.2631325
K_WT	30.5200000	2.9199696	26.8000000	35.1000000	8.5262222	9.5673970
LARGE	19.2000000	14.1562707	4.0000000	41.0000000	200.4000000	73.7305765
SMALL	8.9000000	2.1832697	6.0000000	13.0000000	4.7666667	24.5311204
WHT_PRO	15.4200000	2.3030415	10.8000000	18.7000000	5.3040000	14.9354181
HARD	89.9000000	10.5245744	64.0000000	100.0000000	110.7666667	11.7069793
S_EXT	56.3700000	4.5548631	44.9000000	62.0000000	20.7467778	8.0802964
DU	75.5000000	9.8460370	60.0000000	85.0000000	96.9444444	13.0411086
MIXO	1.8000000	0.9189366	0	3.0000000	0.8444444	51.0520324

VARIETY=MONROE

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.7636364	2.1096316	54.7000000	61.4000000	4.4505455	3.5900290
K_WT	37.4727273	3.5855518	31.3000000	42.4000000	12.8561818	9.5684304
LARGE	44.5454545	11.8774041	27.0000000	65.0000000	141.0727273	26.6635601
SMALL	3.7272727	1.8488326	2.0000000	8.0000000	3.4181818	49.6028247
WHT_PRO	15.0909091	1.6052754	12.1000000	17.5000000	2.5769091	10.6373671
HARD	98.0909091	7.2863509	84.0000000	108.0000000	53.0909091	7.4281612
S_EXT	59.3090909	1.4815226	56.8000000	62.0000000	2.1949091	2.4979688
DU	101.3636364	5.0452498	95.0000000	110.0000000	25.4545455	4.9773765
MIXO	3.8181818	1.3280197	2.0000000	7.0000000	1.7636364	34.7814687

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 21

VARIETY=NPB86-435

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	55.9400000	4.2983718	48.0000000	61.0000000	18.4760000	7.6838966
K_WT	28.7000000	4.2549318	21.9000000	34.7000000	18.1044444	14.8255463
LARGE	9.5000000	7.0906825	2.0000000	25.0000000	50.2777778	74.6387628
SMALL	12.5000000	5.6813535	6.0000000	21.0000000	32.2777778	45.4508281
WHT_PRO	16.3900000	0.8359293	15.4000000	18.0000000	0.6987778	5.1002397
HARD	98.8000000	5.6529245	91.0000000	109.0000000	31.9555556	5.7215835
S_EXT	54.7100000	3.9571174	46.3000000	60.0000000	15.6587778	7.2328959
DU	106.5000000	4.7434165	100.0000000	115.0000000	22.5000000	4.4539122
MIXO	5.6000000	0.8432740	4.0000000	6.0000000	0.7111111	15.0584650

VARIETY=RENVILLE

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.1090909	1.6495178	55.6000000	61.8000000	2.7209091	2.7906331
K_WT	32.9090909	2.9392021	27.8000000	38.5000000	8.6389091	8.9312772
LARGE	18.0000000	9.2628289	5.0000000	35.0000000	85.8000000	51.4601608
SMALL	6.9090909	2.7369525	2.0000000	11.0000000	7.4909091	39.6137865
WHT_PRO	15.3000000	1.7866169	11.6000000	18.1000000	3.1920000	11.6772347
HARD	99.0000000	7.2938330	81.0000000	108.0000000	53.2000000	7.3675081
S_EXT	61.1272727	1.9652435	57.6000000	64.4000000	3.8621818	3.2150027
DU	96.3636364	5.0452498	90.0000000	105.0000000	25.4545455	5.2356366
MIXO	3.8181818	0.9816498	2.0000000	6.0000000	0.9636364	25.7098762

VARIETY=RUGBY

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.9454545	1.1174647	58.4000000	61.8000000	1.2487273	1.8641358
K_WT	34.5272727	2.2601287	31.2000000	38.2000000	5.1081818	6.5459231
LARGE	30.3636364	12.5799263	14.0000000	52.0000000	158.2545455	41.4308950
SMALL	4.9090909	1.4459976	3.0000000	8.0000000	2.0909091	29.4555069
WHT_PRO	15.4636364	1.9966335	11.9000000	18.3000000	3.9865455	12.9117983
HARD	98.0909091	7.5558526	83.0000000	108.0000000	57.0909091	7.7029082
S_EXT	57.8454545	4.8306032	43.5000000	61.0000000	23.3347273	8.3508778
DU	100.4545455	4.1560471	95.0000000	110.0000000	17.2727273	4.1372414
MIXO	1.4545455	0.8201995	0	3.0000000	0.6727273	56.3887178

VARIETY=SCEPTRE

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	58.1545455	2.0805594	53.8000000	61.4000000	4.3287273	3.5776384
K_WT	32.0636364	2.5196320	26.9000000	36.6000000	6.3485455	7.8582229
LARGE	28.0000000	11.6876003	12.0000000	52.0000000	136.6000000	41.7414295
SMALL	5.3636364	2.2033033	1.0000000	9.0000000	4.8545455	41.0785362
WHT_PRO	15.0000000	1.5728954	11.8000000	17.4000000	2.4740000	10.4859695
HARD	96.1818182	6.4314568	85.0000000	106.0000000	41.3636364	6.6867698
S_EXT	58.4181818	1.7209405	54.6000000	60.4000000	2.9616364	2.9458988
DU	100.9090909	5.3935989	90.0000000	110.0000000	29.0909091	5.3450079
MIXO	3.4545455	0.5222330	3.0000000	4.0000000	0.2727273	15.1172701

STATISTICAL EVALUATION OF UNIFORM REGIONAL NURSERY DATA

TABLE 22

VARIETY=STOA

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	57.2800000	2.2802534	53.1000000	60.8000000	5.1995556	3.9808893
K_WT	24.6200000	2.1978778	22.0000000	27.5000000	4.8306667	8.9272046
LARGE	11.5000000	8.9597867	2.0000000	32.0000000	80.2777778	77.9111887
SMALL	9.6000000	3.9496835	5.0000000	15.0000000	15.6000000	41.1425368
WHT_PRO	15.0400000	1.0276186	13.6000000	16.4000000	1.0560000	6.8325705
HARD	65.4000000	3.7178249	58.0000000	71.0000000	13.8222222	5.6847476
S_EXT	61.8800000	3.6614508	52.7000000	65.6000000	13.4062222	5.9170182
DU	35.0000000	3.3333333	30.0000000	40.0000000	11.1111111	9.5238095
MIXO	5.4000000	1.1737878	3.0000000	7.0000000	1.3777778	21.7368109

VARIETY=VIC

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.8909091	1.2972699	57.8000000	61.5000000	1.6829091	2.1660547
K_WT	36.5545455	2.9135420	31.8000000	40.3000000	8.4887273	7.9703961
LARGE	33.7272727	15.1795317	14.0000000	55.0000000	230.4181818	45.0066977
SMALL	4.3636364	1.7477258	2.0000000	7.0000000	3.0545455	40.0520495
WHT_PRO	15.4363636	1.5448448	12.2000000	17.7000000	2.3865455	10.0078285
HARD	98.3636364	4.7386227	88.0000000	104.0000000	22.4545455	4.8174538
S_EXT	61.6545455	5.8750938	56.9000000	78.9000000	34.5167273	9.5290522
DU	101.3636364	6.7419986	90.0000000	115.0000000	45.4545455	6.6512991
MIXO	3.8181818	1.3280197	2.0000000	6.0000000	1.7636364	34.7814687

VARIETY=WARD

VARIABLE	MEAN	STD DEV	MINIMUM	MAXIMUM	VARIANCE	CV
TW	59.8000000	1.3311649	58.0000000	62.0000000	1.7720000	2.2260283
K_WT	33.5000000	3.7531320	23.9000000	37.0000000	14.0860000	11.2033792
LARGE	30.3636364	13.1853914	11.0000000	54.0000000	173.8545455	43.4249416
SMALL	4.7272727	1.4893562	2.0000000	7.0000000	2.2181818	31.5056114
WHT_PRO	15.4909091	1.8151884	12.5000000	18.2000000	3.2949091	11.7177658
HARD	99.8181818	7.5474258	87.0000000	110.0000000	56.9636364	7.5611734
S_EXT	57.8454545	4.1490634	46.0000000	61.3000000	17.2147273	7.1726698
DU	98.1818182	6.4314568	85.0000000	105.0000000	41.3636364	6.5505578
MIXO	1.7272727	0.7862454	1.0000000	3.0000000	0.6181818	45.5194701

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

TABLE 23

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
YECORA ROJO		65.2	47.6	80	0	1.47	13.7	81	441	66.9	50.6	99	0.43	50	3
MEXICALI 75	S	64.4	59.5	88	0	1.65	12.9	126	459	78.5	64.1	60	0.70	85	3
ALDURA		65.2	49.5	77	0	1.65	13.5	128	467	79.6	60.9	60	0.67	90	1
YAVOROS 79	S	66.9	56.5	88	1	1.48	12.3	116	457	78.7	63.1	27	0.61	70	1
WESTBRED 881		64.4	58.8	92	0	1.64	14.0	124	607	78.5	62.5	43	0.65	90	5
WESTBRED TURBO		65.7	53.5	85	1	1.57	12.4	114	438	78.7	62.3	43	0.64	85	2
ALTAR 84		66.1	47.7	64	1	1.70	12.2	112	480	80.0	64.6	40	0.68	85	2
UC 781		64.9	50.5	81	0	1.58	12.3	121	457	78.0	61.6	30	0.63	85	1
NUDURA		65.4	61.7	95	0	1.71	14.8	128	560	77.6	62.3	53	0.71	90	3
FMC D5317		64.8	52.4	87	0	1.88	13.3	111	581	78.2	62.1	43	0.75	90	3
DUREX		64.5	57.8	92	0	1.65	14.2	111	530	79.6	61.2	57	0.64	90	4
FMC D5171-1		64.9	61.0	92	1	1.79	14.7	112	494	77.0	61.8	33	0.78	80	4
FMC D5681		64.5	52.1	86	1	1.79	13.6	115	429	79.1	62.2	30	0.71	75	2
UC 907		65.6	61.0	94	1	1.72	14.1	122	441	78.7	62.1	47	0.70	85	2
UC 908		65.2	61.7	95	0	1.73	14.3	117	431	78.3	62.5	47	0.72	85	2
UC 909		65.4	55.9	90	0	1.73	15.6	121	535	77.3	61.1	73	0.69	85	3
UC 910		66.0	49.0	86	0	1.77	14.7	113	441	76.8	58.9	47	0.67	95	1
WPB 8001		64.8	51.8	86	0	1.63	12.8	112	466	78.2	61.9	30	0.64	95	3
WPB 8002		64.4	52.1	84	1	1.62	13.1	119	428	77.5	60.3	33	0.67	95	3
WPB 8003		63.4	60.2	89	1	1.76	14.0	118	479	79.5	62.9	33	0.75	85	4
CONT D5476		65.1	51.3	81	1	1.69	12.4	116	494	79.2	61.9	33	0.70	95	3
CONT D8869		64.6	52.4	79	1	1.62	13.9	120	623	78.8	63.6	27	0.67	85	3
FMC D6713		64.2	54.6	85	0	1.64	14.0	117	544	79.4	64.9	27	0.67	85	2
FMC D7092		64.4	47.1	81	3	1.80	13.3	116	427	79.0	62.2	33	0.73	80	2
ALDENTE		65.4	50.8	87	1	1.61	13.2	131	450	78.3	62.2	37	0.65	85	2
PH 884-2		64.8	50.5	88	0	1.60	14.1	117	557	79.8	64.4	33	0.66	90	3
PH 885-59		66.0	55.2	89	0	1.68	13.2	114	446	79.0	61.6	43	0.66	90	3
CONT D5456		65.6	50.8	81	0	1.68	13.0	123	450	80.0	63.3	33	0.65	85	2
CONT D5765		64.9	49.5	72	0	1.70	12.4	105	465	79.3	61.6	33	0.69	90	3

TABLE 23 (CONT)

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=IMPERIAL VALLEY NURSERY=ADVANCED

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES G.	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
YECORA ROJO		12.0	3.5	31.6	5.38	5.7	1		MJ			MJ	MJ	MJ	MJ		MJ	
MEXICALI 75	S	11.9	7.5	32.7	5.83	6.0	3								MJ			
ALDURA		12.0	8.5	33.2	5.25	6.2	2		MJ						MJ			
YAVOROS 79	S	10.4	7.5	32.4	5.46	7.0	1				MI					MJ		
WESTBRED 881		13.2	8.5	32.3	6.76	6.6	4											
WESTBRED TURBO		10.9	8.5	33.1	5.38	6.5	1		MI		MI					MJ		
ALTAR 84		10.9	8.5	32.3	6.20	6.7	1		MJ		MI					MJ		
UC 781		11.3	8.0	31.3	5.62	6.1	1		MJ		MI					MI		
NUDURA		13.6	8.5	32.1	7.45	5.9	4											
FMC D5317		12.6	9.0	33.1	7.13	6.4	3		MJ									
DUREX		13.3	8.5	31.2	6.83	6.6	4								MI			
FMC D5171-1		14.0	8.0	31.9	6.74	5.8	4											
FMC D5681		12.4	8.0	32.9	6.61	6.5	3		MJ									
UC 907		12.9	8.0	31.8	6.61	7.0	4											
UC 908		13.2	8.0	31.0	8.04	7.0	4											
UC 909		14.2	8.0	31.4	8.10	6.3	3		MI						MJ			
UC 910		13.7	9.0	32.8	6.50	6.1	1		MJ				MJ					
WPB 8001		11.8	9.0	33.1	6.33	7.5	3		MJ									
WPB 8002		12.0	9.0	33.1	5.77	7.4	2		MJ				MI					
WPB 8003		12.6	8.0	31.8	7.17	6.9	4	MI										
CONT D5476		11.9	9.0	32.9	6.52	6.9	2		MJ		MI							
CONT D8869		12.9	8.0	32.7	6.83	6.8	3		MJ									
FMC D6713		12.8	8.5	33.2	6.07	6.5	4		MI									
FMC D7092		12.2	7.5	32.8	5.98	6.9	3		MJ									
ALDENTE		11.5	8.0	33.0	5.85	7.5	2		MJ							MI		
PH 884-2		13.1	8.5	32.7	6.22	6.4	3		MJ									
PH 885-59		11.8	8.0	32.5	6.26	7.4	4		MI									
CONT D5456		11.5	7.5	33.3	5.44	7.7	2		MJ							MI		
CONT D5765		11.3	8.5	32.7	5.68	7.3	1		MJ		MI					MI		

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	65.7	58.0	1	12.6	78.6	63.6	78	44	11.2	7.5	5.65
MINOR FAULTING VALUES	63.5	55.9	6	12.5	76.1	60.6	68	54	11.5	6.5	4.15
MAJOR FAULTING VALUES	62.6	52.9	11	11.5	75.1	59.6	63	59	11.0	6.0	3.40

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

TABLE 24

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=KINGS CO. NURSERY=ADVANCED

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
ALDURA		64.6	52.4	82	0	1.72	12.0	134	455	80.7	65.1	57	0.68	95	1
YAVAROS 79	S	66.2	65.8	96	0	1.60	11.3	122	443	81.2	66.3	33	0.63	75	2
WESTBRED 881		63.7	56.8	93	0	1.75	12.8	131	488	81.7	65.3	63	0.72	95	5
WESTBRED TURBO		65.3	62.9	96	0	1.59	11.5	133	456	81.2	65.4	50	0.68	80	3
ALTAR 84		66.6	51.3	89	0	1.70	10.5	112	446	78.3	62.8	30	0.73	80	1
UC 781		64.4	50.8	82	0	1.80	11.5	129	438	81.0	64.2	33	0.74	85	2
NUDURA		65.0	63.7	97	0	1.79	13.0	134	491	.	.	.	.	.	.
FMC D5317		64.0	54.6	93	0	1.92	12.6	115	520	81.5	64.5	43	0.78	95	4
DUREX		63.4	57.1	95	0	1.71	12.7	135	434	81.2	63.5	33	0.68	95	5
FMC D5171-1		64.3	60.6	94	0	1.86	13.5	124	433	81.1	65.0	50	0.82	85	3
FMC D5681		64.0	52.1	87	0	1.84	11.6	111	417	80.5	62.9	33	0.78	80	2
PH 884-2		64.5	51.0	87	0	1.65	12.2	114	467	79.6	63.5	63	0.66	90	2
PH 885-59		65.5	57.3	90	0	1.67	11.8	122	461	79.8	63.2	73	0.70	90	2
CONT D5456		64.7	50.8	85	0	1.80	11.6	121	430	80.0	63.1	53	0.74	90	2
CONT D5765		64.8	49.5	80	0	1.80	11.7	125	421	79.8	61.0	70	0.74	90	2
UC 907		65.1	62.9	94	0	1.76	11.7	.	437	80.2	63.6	60	0.77	90	1
UC 908		64.8	59.9	94	0	1.77	12.2	124	430	80.4	63.7	53	0.78	90	2
UC 909		65.1	57.1	92	0	1.81	12.6	135	437	79.0	62.5	57	0.71	90	2
UC 910		65.7	51.5	85	0	1.82	12.9	129	431	79.6	60.8	50	0.75	100	1
WPB 8001		64.5	56.5	93	0	1.69	12.3	112	431	79.3	62.3	67	0.68	95	3
WPB 8002		64.3	57.3	90	0	1.64	12.0	.	386	79.8	62.6	63	0.69	90	3
WPB 8003		63.3	62.9	97	0	1.70	13.1	136	476	80.2	62.1	53	0.74	85	3
CONT D5476		63.9	54.1	87	0	1.75	10.8	111	413	78.0	60.6	27	0.77	95	2
CONT D8869		63.9	55.2	83	0	1.78	13.0	129	494	80.7	64.1	27	0.74	90	3
FMC D6713		63.8	57.3	90	0	1.71	11.7	128	478	81.5	64.7	43	0.71	90	1
FMC D7092		64.0	52.6	90	0	1.80	11.8	127	421	79.8	61.9	30	0.77	75	2
ALDENTE		64.7	60.2	93	0	1.67	12.1	133	452	79.9	63.2	53	0.70	85	2
MEXICALI 75	S	63.1	58.5	89	0	1.75	11.6	125	449	79.2	63.0	53	0.77	85	2
YECORO ROJO		65.5	53.2	88	0	1.47	11.7	85	427	71.3	54.7	99	0.44	50	2

TABLE 24 (CONT)

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=KINGS CO. NURSERY=ADVANCED

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES G.	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ALDURA		10.7	9.0	31.5	5.03	6.0	1		MJ		MI				MI	MJ		
YAVAROS 79	S	10.3	7.5	32.0	4.69	6.6	1				MJ					MJ		
WESTBRED 881		11.2	9.0	30.0	5.62	6.3	1		MJ						MJ	MI		
WESTBRED TURBO		10.2	8.0	32.7	5.01	6.3	1				MJ					MJ		
ALTAR 84		9.5	8.0	32.7	4.69	6.5	1		MJ		MJ					MJ		
UC 781		10.0	8.5	32.4	4.47	7.3	1		MJ		MJ					MJ		
NUDURA		.	.	.	.	.	4											
FMC D5317		11.4	9.0	32.1	4.86	6.3	2		MJ							MI		
DUREX		11.1	9.0	31.3	5.29	6.3	3		MI							MI		
FMC D5171-1		12.0	8.5	32.4	5.23	6.3	4											
FMC D5681		10.2	8.5	33.0	5.12	6.4	1		MJ		MI					MJ		
PH 884-2		10.8	9.5	32.6	5.64	6.0	1		MJ		MI				MJ	MJ		
PH 885-59		10.4	8.5	32.7	4.90	6.4	1		MI		MI				MJ	MJ		
CONT D5456		10.4	8.5	32.2	4.62	6.8	1		MJ		MI				MI	MJ		
CONT D5765		10.3	8.0	31.6	5.05	6.9	1		MJ		MI		MI		MJ	MJ		
UC 907		10.6	8.5	32.0	5.51	6.8	1				MI				MJ	MJ		
UC 908		10.7	8.0	31.9	5.21	6.7	1		MI		MI				MI	MJ		
UC 909		11.4	9.0	32.1	5.85	6.6	3		MI						MI	MI		
UC 910		11.6	9.5	32.8	4.67	6.3	2		MJ				MI					
WPB 8001		10.9	9.0	30.4	5.49	6.9	1		MJ		MI				MJ	MJ		
WPB 8002		11.1	9.0	32.2	5.68	6.8	1		MI		MI				MJ	MI		
WPB 8003		11.4	8.5	31.4	6.42	6.3	3								MI	MI		
CONT D5476		9.9	9.0	33.1	5.25	6.8	1		MJ		MJ		MJ			MJ		
CONT D8869		11.6	9.0	30.9	6.26	6.1	3		MJ									
FMC D6713		10.4	9.0	31.1	4.73	7.2	1		MI		MI					MJ		
FMC D7092		10.5	7.5	32.0	5.16	7.3	1		MJ		MI					MJ		
ALDENTE		10.7	8.5	31.9	5.12	7.7	1				MI				MI	MJ		
MEXICALI 75	S	10.5	8.0	32.5	5.03	6.7	1		MI		MI				MI	MJ		
YECORO ROJO		10.3	3.5	32.3	4.56	6.3	1		MJ		MI	MJ	MJ	MJ	MJ	MJ	MJ	MJ

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	64.7	62.2	0	11.5	80.2	64.7	80	43	10.4	7.8	4.86
MINOR FAULTING VALUES	62.5	60.1	5	12.5	77.7	61.7	70	53	11.5	6.8	3.36
MAJOR FAULTING VALUES	61.6	57.1	10	11.5	76.7	60.7	65	58	11.0	6.3	2.61

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 25

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
MEXICALI 75	S	62.8	54.9	83	0	1.64	12.7	120	440	78.5	61.9	33	0.75	85	4
ALDURA		63.0	48.1	73	1	1.63	12.2	133	452	81.1	63.8	87	0.70	100	1
YAVAROS 79	S	66.4	53.5	88	0	1.46	11.0	104	447	79.8	64.3	67	0.62	75	1
WESTBRED 881		61.8	54.3	86	1	1.71	12.9	112	493	76.4	59.5	33	0.68	95	5
WESTBRED TURBO		64.6	52.9	87	0	1.47	11.9	125	440	76.2	59.6	37	0.64	90	2
ALTAR 84		64.9	46.5	73	1	1.62	10.8	111	437	78.2	61.8	57	0.69	85	1
UC 781		63.0	50.3	80	0	1.57	11.6	118	436	81.2	63.9	80	0.68	85	1
NUDURA		64.5	57.8	92	0	1.71	13.0	117	509	80.8	64.0	93	0.76	95	3
FMC D5317		63.2	47.4	73	1	1.88	12.8	113	492	80.2	62.6	80	0.79	95	4
DUREX		62.6	52.4	87	0	1.69	13.0	124	515	78.1	61.6	83	0.67	90	3
FMC D5171-1		63.7	57.3	86	1	1.80	14.0	121	367	81.1	64.8	93	0.79	90	3
FMC D5681		62.0	42.2	67	1	1.82	11.7	112	427	77.3	59.0	57	0.77	90	2
PH 884-2		63.4	48.1	77	0	1.60	12.3	118	479	78.5	62.4	70	0.68	95	2
PH 885-59		63.9	50.5	84	1	1.64	12.0	.	483	77.3	60.6	87	0.68	90	2
CONT D5456		62.8	42.0	66	2	1.66	12.7	121	428	81.5	61.9	57	0.71	90	1
CONT D5765		61.4	44.6	57	2	1.72	12.1	117	449	78.1	60.0	37	0.72	90	2
UC 907		64.1	54.9	89	0	1.74	12.7	120	415	79.3	62.7	70	0.72	85	1
UC 908		63.9	57.3	92	0	1.76	12.8	123	411	79.8	63.7	67	0.71	85	2
UC 909		64.0	54.9	88	0	1.65	13.0	121	444	79.7	63.3	50	0.68	90	2
UC 910		64.8	46.3	81	0	1.73	12.8	120	441	79.9	62.8	43	0.69	100	1
WPB 8001		63.2	50.3	84	0	1.60	11.8	117	433	77.1	60.5	43	0.65	95	3
WPB 8002		63.0	48.5	84	0	1.57	11.9	108	427	78.0	60.5	30	0.68	95	3
WPB 8003		62.8	54.9	92	0	1.61	12.8	120	462	79.4	62.5	53	0.75	90	4
CONT D5476		62.9	52.9	82	0	1.63	11.5	109	412	78.3	60.6	37	0.74	95	3
CONT D8869		62.4	47.6	64	0	1.75	12.9	122	469	79.7	63.7	37	0.72	95	2
FMC D6713		61.6	48.5	68	0	1.70	13.3	124	463	79.2	62.7	83	0.71	90	2
FMC D7092		60.9	44.6	68	0	1.81	12.4	119	438	79.7	61.4	63	0.76	85	3
ALDENTE		63.1	52.4	84	0	1.60	12.2	114	449	77.5	60.8	47	0.67	90	3
YECORA ROJO		63.8	45.0	69	0	1.38	11.9	75	391	70.5	53.2	99	0.43	50	2

TABLE 25 (CONT)

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES G.	SCORE ***	-----------DEFICIENCIES----------- TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
MEXICALI 75	S	11.4	8.0	33.3	5.12	6.9	3									MI		
ALDURA		11.2	9.0	32.6	4.64	6.6	1		MJ		MI				MJ	MI		
YAVAROS 79	S	10.3	7.5	33.0	4.82	7.0	1				MJ				MJ	MJ		
WESTBRED 881		11.7	9.0	30.4	3.82	6.2	2	MI				MI	MI					
WESTBRED TURBO		10.7	9.0	32.0	3.89	6.9	1				MI	MI	MI			MJ		
ALTAR 84		10.4	9.0	32.1	6.11	6.6	1		MJ		MJ					MJ		
UC 781		10.7	8.5	32.4	5.38	6.3	1		MI		MI				MJ	MJ		
NUDURA		12.2	9.5	30.8	4.32	6.6	3								MJ			
FMC D5317		11.7	9.0	31.8	4.15	6.7	2		MJ						MJ			
DUREX		11.9	9.5	31.2	5.44	6.5	3								MJ			
FMC D5171-1		12.8	9.0	31.0	5.44	6.4	3								MJ			
FMC D5681		10.6	9.0	31.9	4.77	7.0	1	MI	MJ		MI		MJ			MJ		
PH 884-2		11.0	9.5	32.5	5.29	6.3	1		MJ		MI				MJ	MJ		
PH 885-59		10.9	8.5	32.2	4.97	7.0	1		MI		MI				MJ	MJ		
CONT D5456		11.6	8.5	32.2	6.29	6.4	3		MJ									
CONT D5765		10.6	9.0	32.6	6.70	5.3	1	MJ	MJ		MI		MI			MJ		
UC 907		11.3	9.0	31.4	6.07	6.6	2								MJ	MI		
UC 908		11.4	8.5	30.6	6.20	6.7	2								MJ	MI		
UC 909		11.8	9.0	31.0	5.40	7.4	4											
UC 910		11.5	10.0	30.5	6.54	6.7	2		MJ							MI		
WPB 8001		11.0	9.5	31.7	5.83	6.7	1		MI		MI					MJ		
WPB 8002		10.9	9.5	31.8	5.10	6.8	1		MJ		MI					MJ		
WPB 8003		11.6	9.0	32.6	4.92	6.5	4											
CONT D5476		10.5	9.0	33.6	5.64	7.3	1				MJ					MJ		
CONT D8869		12.2	9.0	32.1	4.99	6.5	3		MJ									
FMC D6713		12.3	9.0	34.0	4.75	6.5	2	MI	MJ						MJ			
FMC D7092		11.2	8.5	34.3	4.47	7.5	1	MJ	MJ		MI				MI	MI		
ALDENTE		10.9	9.5	37.3	5.53	7.2	1				MI					MJ		
YECORA ROJO		10.7	5.0	35.0	4.82	6.4	1		MJ		MI	MJ	MJ	MJ	MJ	MJ	MJ	MJ

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	64.6	54.2	0	11.9	79.2	63.1	80	50	10.9	7.8	4.97
MINOR FAULTING VALUES	62.4	52.1	5	12.5	76.7	60.1	70	60	11.5	6.8	3.47
MAJOR FAULTING VALUES	61.5	49.1	10	11.5	75.7	59.1	65	65	11.0	6.3	2.72

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 26

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
ND Std. VIC	S	60.0	31.2	12	8	1.89	15.5	110	400	77.9	57.7	30	0.72	105	6
91209/03		64.7	51.3	88	1	1.65	13.4	112	400	86.2	66.0	70	0.72	90	5
91209/10		66.2	49.3	83	2	1.66	13.4	120	400	83.4	63.4	47	0.70	90	3
91209/15		63.5	58.5	91	1	1.74	13.1	107	400	83.8	65.9	60	0.76	85	4
91209/16		65.5	56.5	84	1	1.60	12.8	119	400	86.3	67.4	60	0.65	75	2
91209/18		65.8	47.8	70	2	1.70	12.2	108	400	84.8	65.9	33	0.69	90	2
91209/19		63.5	55.9	91	0	1.76	14.3	110	400	83.4	64.1	73	0.68	85	6
91209/29		64.9	60.2	96	0	1.80	14.5	113	400	85.0	66.4	57	0.79	85	4
91209/35		65.2	52.6	84	1	1.75	13.3	111	400	84.5	65.2	63	0.69	95	2
91210/05		64.8	57.8	94	1	1.54	13.3	115	400	84.3	64.9	43	0.61	70	2
91210/16		64.1	62.1	95	1	1.57	13.6	116	400	84.5	65.4	27	0.65	80	4
91210/18		62.4	55.2	85	1	1.63	14.6	111	400	83.8	64.0	37	0.66	105	6
91210/20		65.5	49.3	86	0	1.65	14.3	114	400	83.7	63.2	23	0.63	60	4
91211/07		64.8	52.1	91	0	1.51	13.0	118	400	83.6	63.8	20	0.59	60	4
91211/16		63.5	60.2	91	1	1.55	13.5	109	400	84.0	65.9	40	0.70	80	5
91211/24		64.5	57.3	89	1	1.62	13.4	117	400	83.0	62.4	27	0.64	60	2
91211/25		64.8	58.1	90	0	1.62	13.2	113	400	83.6	63.5	10	0.65	60	1
91211/28		63.6	51.3	86	1	1.56	13.6	106	400	82.7	61.6	13	0.62	70	3
91211/37		63.4	58.1	96	0	1.55	13.2	114	400	83.3	63.4	37	0.62	55	3
91211/39		64.0	53.8	90	1	1.54	12.7	115	400	85.4	64.6	10	0.61	55	3
91212/03		64.7	56.5	94	1	1.47	13.7	119	400	84.8	65.2	20	0.60	70	4
91212/04		64.0	59.2	96	1	1.48	12.8	110	400	82.9	64.3	27	0.60	70	4
91212/07		65.8	52.4	89	1	1.48	12.8	106	400	85.3	66.1	40	0.61	60	2
91212/14		65.0	54.6	90	1	1.60	13.3	109	400	84.1	65.0	30	0.73	55	4
91212/16		64.0	55.9	91	2	1.61	13.0	116	400	83.8	64.0	23	0.67	80	5
91212/20		65.5	50.0	81	1	1.49	12.2	114	400	84.0	62.7	20	0.63	90	3
91212/23		64.8	52.9	82	1	1.42	12.1	106	400	83.8	63.5	53	0.62	80	3
91212/29		65.8	51.5	79	1	1.39	11.9	106	400	82.6	62.2	37	0.56	80	2
91212/40		65.4	54.1	90	2	1.45	12.5	108	400	81.9	61.5	13	0.65	90	3
91213/05		65.6	52.9	83	2	1.47	12.5	110	400	82.1	62.2	30	0.61	80	2
91213/06		64.8	51.8	88	0	1.61	12.7	113	400	82.6	63.0	33	0.62	75	2
91213/16		64.1	58.5	92	0	1.58	13.1	108	400	83.5	64.2	30	0.65	80	4
91213/21		65.2	50.3	78	1	1.58	13.2	107	400	84.6	63.6	60	0.66	75	5
91213/23		66.3	60.6	90	1	1.46	13.2	107	400	82.6	62.8	17	0.56	80	4
91213/29		64.4	51.0	81	0	1.45	12.6	112	400	83.9	63.6	13	0.60	65	2

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=DAVIS NURSERY=ADVANCED

TABLE 26 (CONT)

VARIETY	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES %	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ND Std. VIC	S	15.1	9.5	30.7	7.13	6.0	4											
91209/03		12.5	8.5	31.4	6.61	6.0	1							MJ	MJ		MI	
91209/10		12.1	8.0	32.1	5.75	6.8	1							MJ	MJ		MJ	
91209/15		11.7	8.0	31.3	5.68	6.0	1							MJ	MJ		MJ	
91209/16		11.3	7.5	32.3	5.36	6.6	1							MJ	MJ	MI	MJ	MI
91209/18		10.8	8.0	33.4	5.36	7.0	1				MI			MJ		MJ	MJ	MI
91209/19		13.3	8.5	31.3	6.48	6.2	1							MJ	MJ		MI	
91209/29		13.5	7.5	30.5	6.87	5.5	1							MJ	MJ		MJ	
91209/35		11.9	8.5	32.1	5.66	6.4	1							MI	MJ		MI	
91210/05		11.9	7.0	32.2	5.68	6.0	1							MJ	MI		MJ	
91210/16		12.1	7.5	32.4	5.83	6.1	1							MJ			MJ	
91210/18		13.7	10.0	32.4	6.52	5.7	4											
91210/20		12.8	8.5	31.4	6.50	6.2	1							MJ			MI	
91211/07		11.2	7.5	32.7	5.85	6.2	1							MJ		MI	MJ	
91211/16		12.3	8.5	32.1	6.42	5.9	1							MJ	MI		MI	
91211/24		11.8	7.0	32.1	5.57	6.7	1							MJ			MJ	MI
91211/25		11.6	8.5	32.7	5.46	7.1	1							MJ			MI	MI
91211/28		12.2	8.5	33.2	5.68	6.5	1							MJ			MI	
91211/37		11.6	5.0	32.6	6.13	6.8	1							MJ			MJ	
91211/39		11.1	5.0	32.9	6.48	6.2	1							MJ		MI	MJ	
91212/03		12.2	8.0	32.6	6.11	6.4	1							MJ			MJ	
91212/04		11.5	8.5	32.3	6.05	6.5	1							MJ		MI	MI	
91212/07		11.7	7.5	31.7	6.05	6.4	1							MJ	MI		MJ	
91212/14		12.3	7.5	31.8	5.85	6.4	1							MJ			MJ	
91212/16		11.9	7.5	32.4	5.64	6.7	1							MJ			MJ	
91212/20		10.5	9.0	32.6	5.72	6.5	1				MI			MJ		MJ		
91212/23		10.2	8.5	32.7	5.83	6.7	1				MI			MJ	MJ	MJ	MI	
91212/29		10.5	8.5	32.5	5.10	6.5	1				MI			MJ		MJ	MI	MI
91212/40		11.2	9.0	31.1	5.70	5.5	1				MI			MJ		MI		
91213/05		11.1	8.5	30.9	5.42	7.1	1				MI			MJ		MI	MI	MI
91213/06		11.1	7.5	31.2	5.38	6.9	1							MJ		MI	MJ	MI
91213/16		11.9	8.0	32.4	6.13	6.4	1							MJ			MJ	
91213/21		11.8	7.5	33.1	5.90	7.0	1							MJ	MJ		MJ	
91213/23		11.8	8.5	32.2	5.77	6.4	1							MJ			MI	
91213/29		11.2	7.5	33.1	5.53	6.3	1							MJ		MI	MJ	MI

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	60.0	31.2	8	15.5	77.9	57.7	105	30	15.1	9.5	7.13
MINOR FAULTING VALUES	57.8	29.1	13	12.5	75.4	54.7	95	40	11.5	8.5	5.63
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	74.4	53.7	90	45	11.0	8.0	4.88

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=OREGON STATION=PENDLETON NURSERY=ADVANCED

TABLE 27

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
VIC 91STD	S	60.0	31.2	12	8	15.1	110	61.1	100	6	4						
OR 4870576		62.3	49.5	78	0	12.0	95	61.1	100	4	3			MI			
ALTAR 84		63.8	43.5	68	0	9.5	89	61.2	70	0	1			MJ			MJ
SYRICA 1		62.3	50.5	89	1	9.4	86	60.9	60	2	1			MJ			MJ
DAKI		65.0	47.8	83	1	9.4	82	58.7	70	0	1			MJ			MJ
OR 485270		63.2	52.6	86	1	10.0	87	58.5	60	0	1			MJ			MJ
BICRE		64.3	55.2	91	0	9.9	89	59.5	60	1	1			MJ			MJ
SHAM 1		64.3	46.3	66	1	11.1	94	60.7	90	1	1			MJ			MI
OR 4895276		64.5	50.8	86	1	11.5	106	56.0	65	2	1			MJ	MJ		MJ
BRACHOWA		65.0	48.3	80	1	11.1	94	57.3	70	2	1			MJ	MI		MJ
SAJAR		63.7	50.0	85	1	10.6	90	57.8	60	1	1			MJ	MI		MJ
GUS"S"		64.6	52.6	91	0	9.9	86	54.2	60	0	1			MJ	MJ		MJ
OR 4895297		63.5	47.4	78	0	9.2	88	59.3	55	0	1			MJ			MJ
OR 4895300		64.3	53.8	88	1	10.5	87	57.1	60	2	1			MJ	MJ		MJ
OR 4895303		63.9	50.3	88	0	10.1	91	56.5	80	2	1			MJ	MJ		MJ
OR 4895340		62.6	43.1	64	2	10.3	87	53.8	75	2	1			MJ	MJ		MJ
OR 4895342		63.0	52.1	83	1	10.9	99	55.2	75	3	1			MJ	MJ		MJ
OR 4895345		63.4	40.3	57	3	10.9	95	58.1	85	1	1			MJ	MI		MJ
OR 4895346		64.1	42.2	62	0	9.3	80	58.9	75	1	1			MJ			MJ
OR 4880111		64.6	47.4	80	2	11.1	97	56.7	60	2	1			MJ	MJ		MJ
OR 4880123		62.8	45.8	80	1	10.3	71	58.9	55	2	1			MJ			MJ
OR 4880154		63.5	50.5	90	0	9.9	95	57.6	75	1	1			MJ	MI		MJ
OR 490031		63.9	46.9	83	1	8.7	80	60.0	70	0	1			MJ			MJ

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.0	31.2	8	15.1	61.1	100
MINOR FAULTING VALUES	57.8	29.1	13	12.5	58.1	90
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	57.1	85

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=OREGON STATION=PENDLETON NURSERY=PRELIMINARY

TABLE 28

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
VIC 91STD	S	60.0	31.2	12	8	15.1	110	61.1	100	6	4						
ALTAR84	#4	60.3	40.8	56	1	14.6	96	63.0	95	3	4						
OR918119	#14	63.2	45.0	73	0	13.4	98	61.1	85	1	1						MJ
OR918120	#15	62.7	36.1	41	3	14.3	90	62.4	95	2	4						
OR4870576	#16	60.6	47.4	69	0	14.7	95	62.5	105	5	4						
OR918121	#17	63.0	40.2	52	3	13.1	95	60.4	90	2	2						MI
OR918122	#18	62.4	45.2	67	2	12.6	105	60.9	90	1	2						MI
OR918123	#19	62.1	45.0	64	2	13.3	101	60.3	95	2	4						
OR918124	#21	61.0	53.8	84	1	13.9	105	60.9	85	3	1						MJ
OR918125	#22	62.4	44.2	72	0	12.8	98	60.4	85	3	1						MJ
OR918127	#24	62.6	51.0	77	1	12.4	98	60.2	105	3	3			MI			
OR918128	#25	59.1	37.3	20	4	13.5	94	58.8	95	3	4						
OR918129	#26	59.0	37.5	19	4	13.4	98	58.8	80	3	1						MJ
OR918130	#27	61.7	42.7	44	1	12.1	99	59.5	80	3	1			MI			MJ
ALTAR84 ALTO 28		63.7	48.8	78	1	12.7	90	59.3	75	2	1						MJ
GYS"S"	#29	62.8	41.7	47	2	12.8	97	61.1	90	3	2						MI
OR4870576	#31	60.1	45.5	60	2	14.5	92	58.1	110	5	3				MI		
OR4900090	#32	63.0	49.0	74	1	12.9	94	57.4	90	2	1				MI		MI
OLUS"S"	#33	63.5	52.4	85	0	13.9	95	57.0	95	3	2				MJ		
OR4900093	#35	63.5	51.5	83	1	14.2	112	59.4	90	3	2						MI
OR4900095	#37	64.5	42.6	59	3	11.1	91	60.2	75	1	1			MJ			MJ
RISSA"S"	#38	63.8	43.5	61	4	12.6	104	60.2	70	2	1						MJ
FILLO"S"	#39	62.8	38.0	40	2	13.3	95	58.8	85	2	1						MJ
OR4900101	#43	62.1	41.5	50	4	13.0	95	59.1	95	3	4						
OR4900103	#45	64.1	56.8	90	0	13.5	104	57.6	65	3	1				MI		MJ
OR4900104	#46	64.4	53.8	90	0	13.3	97	57.8	65	3	1				MI		MJ
CHEN	#47	64.2	49.3	82	2	12.9	105	58.9	80	3	1						MJ
OR4900110	#54	64.0	54.6	86	1	12.4	102	56.3	65	2	1			MI	MJ		MJ
OR4900111	#55	63.6	51.0	79	1	14.5	93	58.7	85	3	1						MJ
OR4900112	#56	62.6	42.6	62	1	13.4	97	60.3	80	3	1						MJ
OR4900113	#57	65.1	52.9	88	1	10.8	81	63.1	65	2	1			MJ			MJ
OR4900114	#58	63.4	50.5	85	0	12.4	91	55.3	70	3	1			MI	MJ		MJ
OR4900115	#59	61.8	38.2	49	4	14.2	95	59.9	95	4	4						
OR4900116	#60	61.7	39.2	37	6	14.1	103	61.3	95	3	4						
OR4900117	#61	63.5	42.6	60	2	10.3	88	61.6	85	1	1			MJ			MJ
OR4900118	#62	62.6	51.3	79	0	11.6	93	59.1	80	2	1			MI			MJ
OR4900122	#66	64.1	55.2	88	0	11.1	92	61.4	80	2	1			MJ			MJ
OR4900123	#67	63.7	50.0	78	0	12.4	95	58.8	85	3	1			MI			MJ
CHEN	#69	63.0	42.9	69	1	12.8	96	58.9	90	3	2						MI
OR4900127	#72	62.6	43.5	58	1	11.7	85	60.9	80	3	1			MI			MJ
OR4900128	#73	62.7	43.3	63	0	12.3	96	59.2	90	3	1			MI			MI
BISU"S"	#75	61.6	40.7	42	4	12.5	96	60.7	100	3	3			MI			
OR4900132	#77	64.1	46.7	69	2	11.3	95	59.8	95	3	2			MJ			
OR4900133	#78	64.2	58.5	91	0	10.7	90	60.9	80	2	1			MJ			MJ
OR4870576	#82	61.3	49.8	74	1	12.9	104	60.4	105	4	4						
OR4900137	#83	63.3	47.6	70	0	12.2	98	58.9	85	3	1			MI			MJ
ALTAR84	#87	62.7	43.7	69	1	12.5	98	58.9	90	3	1			MI			MI
OR4900141	#88	63.4	45.8	58	1	12.4	103	61.2	75	3	1			MI			MJ
OR4900142	#89	64.3	46.3	76	0	11.6	92	61.1	90	3	1			MI			MI
BISU"S"	#90	62.0	42.0	55	2	11.4	82	62.9	80	3	1			MJ			MJ
CHEN	#91	63.6	46.7	82	0	10.8	91	58.8	75	1	1			MJ			MJ
OR4900152	#101	62.2	43.9	55	1	13.5	103	59.1	70	3	1						MJ

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=OREGON STATION=PENDLETON NURSERY=PRELIMINARY

TABLE 28 (CONT)

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
CM82A.1062	#102	60.7	42.9	25	2	12.8	91	59.1	80	2	1						MJ
MEMO"S"	#103	60.9	42.6	64	2	11.7	94	56.7	70	3	1			MI	MJ		MJ
OR4900166	#106	63.1	47.6	73	1	10.1	91	58.9	75	0	1			MJ			MJ
OR4870576	#113	60.6	46.1	66	2	11.5	97	58.2	100	4	2			MJ			
CREX"S"	#114	62.2	54.9	89	0	9.6	97	59.3	75	0	1			MJ			MJ
OR4900174	#115	63.1	54.9	88	0	11.0	110	56.3	70	2	1			MJ	MJ		MJ
OR4900178	#119	60.7	46.1	58	2	13.0	99	59.3	90	3	2						MI
OR4900179	#120	62.8	41.5	46	2	12.7	98	59.0	90	3	2						MI
OR4900181	#122	62.2	43.1	64	1	11.9	104	57.4	95	2	2			MI	MI		
OR4910036	#130	60.4	48.1	83	0	11.6	102	53.1	90	3	1			MI	MJ		MI
OR4870576	#134	60.6	46.1	68	0	11.8	99	57.9	100	4	2			MI	MI		
OR4910043	#139	61.4	36.2	26	4	12.0	98	58.1	105	0	2			MI	MI		
OR4910045	#141	62.7	46.5	73	1	12.8	107	55.6	95	4	2				MJ		
OR4910046	#142	61.0	42.4	69	1	12.8	100	55.1	95	3	2				MJ		
ALTAR 84	#143	63.5	45.2	75	1	11.6	98	58.3	85	2	1			MI			MJ
OR4910047	#144	64.1	46.3	78	2	11.0	106	55.1	80	2	1			MJ	MJ		MJ
OR4910051	#149	63.1	43.3	45	1	10.4	91	59.1	95	2	2			MJ			
CHEN	#150	63.9	47.8	82	0	11.2	95	56.9	80	2	1			MJ	MJ		MJ
OR4910057	#156	63.4	52.9	85	0	10.0	86	57.8	75	2	1			MJ	MI		MJ
OR4910058	#158	62.4	39.1	34	4	11.1	98	60.5	100	0	2			MJ			
ALTAR 84	#159	63.5	45.7	74	1	11.8	97	59.3	95	3	3			MI			
CHEN	#160	63.4	44.8	72	1	12.4	100	59.1	85	3	1			MI			MJ
OR4910059	#161	61.0	43.1	54	3	11.7	91	59.7	90	2	1			MI			MI
OR4910059	#162	59.7	39.8	22	3	11.9	102	56.7	105	2	1			MI	MJ		
OR4910060	#163	62.8	48.8	73	1	11.2	96	58.6	65	2	1			MJ			MJ
OR4870576	#168	60.6	48.5	72	1	11.6	94	58.9	105	4	3			MI			
OR4870576	#177	61.4	52.6	82	2	12.2	101	63.8	95	2	3			MI			
ALTAR 84	#178	63.1	44.2	78	2	11.2	87	62.4	85	2	1			MJ			MJ

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.0	31.2	8	15.1	61.1	100
MINOR FAULTING VALUES	57.8	29.1	13	12.5	58.1	90
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	57.1	85

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=CALIFORNIA STATION=DAVIS NURSERY=SPECIALS

TABLE 29

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
VIC 91 STD	S	60.0	31.2	12	8	15.1	110	61.1	100	6	4						
90152 2-16		59.0	36.1	29	2	12.9	123	49.8	70	3	1					MJ	MJ
90152 3-16		64.4	50.5	77	0	12.7	137	55.2	65	3	1					MJ	MJ
90152 4-16		56.6	35.7	25	6	12.5	104	53.2	65	3	1	MJ			MI	MJ	MJ
90152 5-16		54.7	36.1	27	3	12.4	97	53.9	65	3	1	MJ			MI	MJ	MJ
90152 7-16		65.4	50.0	78	0	12.4	133	55.7	65	2	1				MI	MJ	MJ
90152 2-17		60.8	38.9	30	3	13.5	132	52.4	80	4	1					MJ	MJ
90152 3-17		65.4	52.4	82	0	13.6	137	56.1	75	4	1					MJ	MJ
90152 4-17		58.4	34.2	22	4	13.4	121	53.6	75	4	1					MJ	MJ
90152 5-17		53.6	31.2	22	4	13.8	88	50.7	65	4	1	MJ				MJ	MJ
90152 7-17		67.4	53.2	85	0	13.0	131	55.2	70	3	1					MJ	MJ
90152 2-18		59.8	31.9	27	6	13.5	101	52.9	70	4	1					MJ	MJ
90152 3-18		64.6	44.2	67	1	12.6	125	54.5	75	3	1					MJ	MJ
90152 4-18		59.3	35.6	29	4	13.3	105	55.0	70	5	1					MJ	MJ
90152 5-18		57.7	33.1	30	5	13.2	102	53.6	70	5	1	MI				MJ	MJ
90152 7-18		64.8	44.1	70	0	12.2	117	53.1	70	3	1				MI	MJ	MJ

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.0	31.2	8	15.1	61.1	100
MINOR FAULTING VALUES	57.8	29.1	13	12.5	58.1	90
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	57.1	85

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=ARIZONA STATION=TUCSON NURSERY=SPECIAL

TABLE 30

-----VARIETY-----	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT ASH %	WHT PRO %	HARD-NESS	FALL NO SEC	TOTL EXTR %	SEMO EXTR %	SPK	SEMO ASH %	DUST COLOR	MIXO SCORE
ND Std. VIC	S	60.0	31.2	12	8	1.89	15.5	110	400	77.9	57.7	30	0.72	105	6
ALDENTE		61.5	52.9	87	0	1.91	15.2	116	400	77.3	61.0	43	0.78	90	4
APB#8		62.7	51.5	86	0	1.79	14.4	116	400	77.3	60.4	73	0.72	85	4
DUREX		61.9	54.1	93	0	1.75	14.3	120	400	77.5	60.5	40	0.75	90	4
WESTBRED 881		62.4	52.6	91	0	1.80	14.3	124	400	78.5	60.9	50	0.74	95	4
WESTBRED TURBO		63.4	57.1	94	0	1.70	12.8	121	400	78.9	62.3	47	0.74	95	2
D 5681		61.6	46.9	83	0	1.90	15.9	122	400	79.2	61.1	37	0.76	95	3
D 5171-1		62.4	51.8	89	0	1.85	14.6	119	400	78.9	61.8	50	0.81	95	4
D 5317		63.4	54.9	89	0	1.75	13.0	130	400	78.5	61.1	40	0.71	95	4
D 5456		63.3	54.9	90	0	1.71	12.8	126	400	78.5	62.4	43	0.74	95	4
D 6216		62.1	52.9	89	0	1.82	13.4	116	400	77.9	60.5	33	0.78	95	4

TABLE 30 (CONT)

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=ARIZONA STATION=TUCSON NURSERY=SPECIAL

-----VARIETY-----	STD	SEMO PRO %	VIS COL	COOK WT G.	FIRM-NESS	RES %	SCORE ***	DEFICIENCIES TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
ND Std. VIC	S	15.1	9.5	30.7	7.13	6.0	4											
ALDENTE		14.3	8.5	31.0	4.56	6.1	1							MJ	MI		MI	MJ
APB#8		13.4	8.5	32.3	4.47	5.7	1							MJ	MJ		MI	MJ
DUREX		13.6	9.0	29.4	4.84	5.4	1							MJ	MI			MJ
WESTBRED 881		13.5	9.5	31.0	4.84	6.0	1							MI	MJ			MJ
WESTBRED TURBO		11.9	9.0	32.1	5.44	6.4	1							MI	MJ			MI
D 5681		14.6	8.5	30.1	5.53	6.2	1							MI			MI	MI
D 5171-1		13.6	9.0	31.2	5.40	6.5	1							MI	MJ			MI
D 5317		12.1	9.0	31.9	5.34	6.5	1							MI	MI			MI
D 5456		12.3	9.0	32.5	5.05	6.7	1							MI	MI			MI
D 6216		12.8	9.0	31.4	4.97	6.7	1							MI				MI

DEFICIENCIES	TW	KW	SM	WP	TX	SX	DU	SK	SP	VI	FR
AVG OF STANDARDS	60.0	31.2	8	15.5	77.9	57.7	105	30	15.1	9.5	7.13
MINOR FAULTING VALUES	57.8	29.1	13	12.5	75.4	54.7	95	40	11.5	8.5	5.63
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	74.4	53.7	90	45	11.0	8.0	4.88

**EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE

QUALITY DATA OF DURUM SAMPLES 1991 CROP
STATE=OREGON STATION=PENDLETON NURSERY=ELITE

TABLE 31

VARIETY	STD	TEST WT #/BU	1000 K.WT G.	SIZING LG %	SIZING SM %	WHT PRO 14%	HARD NESS	SEMO EXTR %	DUST COLOR	MIXO PAT	SCORE ***	DEFICIENCIES TW	KW	SM	WP	SX	DU
VIC 91STD	S	60.0	31.2	12	8	15.1	110	61.1	100	6	4						
OR 4870576	#1	61.0	47.8	75	1	13.9	94	60.0	95	5	4						
OR 4880433	#2	61.1	46.5	82	0	13.0	105	57.5	95	4	3					MI	
CHEN	#5	65.0	49.3	84	0	12.5	101	59.8	75	3	1				MI		MJ
OR 4880045	#7	62.5	43.3	49	1	13.1	90	60.3	65	3	1						MJ
OR 4880059	#9	63.5	44.4	66	2	12.4	97	58.4	90	3	1				MI		MI
OR 4880068	#10	63.0	41.8	65	2	12.9	109	59.8	85	3	1						MJ
ALTAR 84	#11	62.9	41.5	50	2	12.3	94	60.7	90	3	1				MI		MI
CHEN	#12	63.8	41.5	69	2	13.2	96	58.4	85	3	1						MJ
CHEN	#13	64.5	44.4	73	1	12.9	102	57.5	80	3	1					MI	MJ
OR 4880131	#14	62.8	41.5	64	2	13.6	97	56.4	65	3	1					MJ	MJ
NUS	#15	61.8	40.3	58	1	12.8	97	56.9	100	3	2					MJ	
YAV	#16	65.0	51.3	82	1	11.5	101	57.3	70	2	1				MJ	MI	MJ
CHEN	#17	64.9	52.1	89	0	13.1	99	60.9	80	3	1						MJ
OR 4880541	#19	64.3	47.1	76	0	11.0	92	56.0	70	2	1				MJ	MJ	MJ
BRACHOWA	#23	65.5	46.9	85	0	11.4	101	58.2	75	2	1				MJ		MJ
OR 4895299	#26	65.0	54.3	89	0	11.9	100	59.3	80	3	1				MI		MJ
NUS'S	#27	63.3	42.2	68	0	11.6	100	55.3	100	3	1				MI	MJ	
RISSA'S	#28	63.3	45.5	67	1	12.1	91	56.6	70	3	1				MI	MJ	MJ
OR 4895343	#31	63.7	43.7	68	2	12.3	96	58.5	90	3	1				MI		MI
OR 4880027	#32	64.1	48.5	77	1	12.3	91	57.3	70	2	1				MI	MI	MJ
OR 4880049	#33	63.9	45.7	72	1	12.3	102	41.5	65	0	1				MI	MJ	MJ
CHEN	#35	63.6	44.6	78	1	11.2	93	47.0	60	0	1				MJ	MJ	MJ

DEFICIENCIES	TW	KW	SM	WP	SX	DU
AVG OF STANDARDS	60.0	31.2	8	15.1	61.1	100
MINOR FAULTING VALUES	57.8	29.1	13	12.5	58.1	90
MAJOR FAULTING VALUES	56.9	26.1	18	11.5	57.1	85

***EVALUATION 1=NO PROMISE, 2=LITTLE PROMISE, 3=SOME PROMISE, 4=GOOD PROMISE